

# THE DENTAL DIGEST

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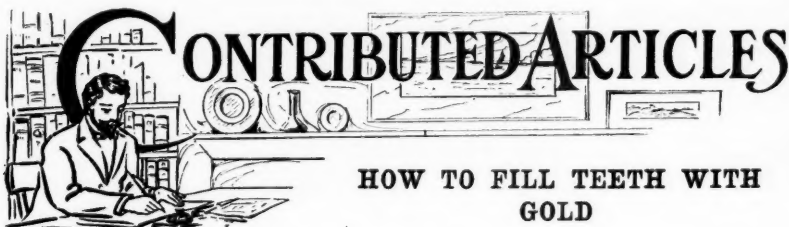
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## HOW TO FILL TEETH WITH GOLD

J. V. CONZETT, D.D.S., DUBUQUE, IA.

### CAVITIES IN THE MESIAL SURFACES OF THE CUSPIDS

THESE are treated very much like cavities in the same surface of the incisors. The generally conical shape of the tooth will call for some slight differences in cavity preparation, but the general principles are the same, and the form changes can be easily modified to suit the changed conditions. Ordinarily these cavities are very easy of access, owing to the shape of the distal surface of the lateral, and the incisal surface of the cuspid; so that the problems presented for solution in these cases are few and easily solved. The only point that needs particular attention is the lingual margin. Be sure that it is cut wide enough to afford easy access for the introduction of gold from the lingual surface, or that margin will be difficult to fill properly.

### CAVITIES IN DISTAL SURFACES OF CUSPIDS; THE ENAMEL INCISAL ANGLE RETAINED

The cavities in distal surfaces of the cuspids, however, are another story. Probably no cavities in any of the teeth present more difficulties

than these. Owing to the position and the shape of the tooth, a cavity in the distal surface is peculiarly difficult to reach. The old method of cutting an ordinary cavity and depending upon grooves and pits for anchorage and retention failed so very frequently, and cavities made this way were so rarely satisfactory to the operator after he had finished them, that they were more often filled with amalgam than gold. But as all things are possible, so is it possible to perfectly fill even these difficult cavities and with comparative ease. We will follow the same general principles of extension for prevention; carrying our margins



FIG. 1.—Distal cavity in cuspid where enamel incisal angle is retained.

out clear of all contact with the bicuspid buccally, lingually and incisally, and carrying our lingual margin well up under the margin of the gum. If the first bicuspid is gone or if it presents a large mesial cavity, a cavity may be cut in the approximal surface of the cuspid without destroying the enamel incisal angle. With plenty of access a cavity can be so formed that all parts of it can be reached by the plugger point except the incisal anchorage, which need not be very deep, as a filling in the distal surface of an upper incisor receives so little stress that it would not tend to drive it out of the cavity. Indeed, the stress such a filling receives has the opposite effect, for, as the mandible closes against the teeth in the maxillary, the stress comes upon the distal surfaces of the upper teeth; hence the tendency would be to drive a filling into, instead of out of, a cavity in the distal surface of an upper cuspid.

The incisal anchorage in a cuspid, therefore, should not be too deep; if it is, it cannot be reached; indeed, it cannot be reached any way with a straight plugger point. If this form of cavity preparation is used (that is, not cutting away the enamel incisal angle) the back-action plugger must be brought into requisition as the gold is built down to the incisal anchorage, and the gold in this angle condensed with that. Any one that tries to fill a cavity of this kind, to which he has not sufficient access, will come to grief; for he will find that even if he is able to fill the greater part of the cavity, he will fail at the incisal angle. The back-action



FIG. 2.—Labial view of distal cavity in cuspid showing linguo-incisal preparation.

plugger will avail him nothing unless he has plenty of room to use it. The general lines of such a cavity should be the same as the general lines of a cavity in the mesial surface, and when finished the cavity will be decidedly triangular in form. Let me again emphasize the importance of access; for you cannot condense gold into any point of a cavity that you cannot reach with your plugger point, either straight- or back-action. You cannot condense gold around a corner.

This form of cavity is illustrated in Fig. 1 which shows the distal surface of the tooth, the general outline form, and the internal and cavo-surface angle preparation.

There is a form of preparation for these cavities that has never

appealed to me very strongly. It is prepared by cutting very extensively on the labial surface and gaining access in that way. In the first place, the finished filling never looks very artistic, and I consider that a very great fault. Anybody can be an artisan, but few are called to be artists; nevertheless, it should be the ambition of every dentist to be an artist, and to make every operation as beautiful as possible. Every filling should be built upon lines of the greatest beauty and a man should strive to make each operation better than the last.

In the second place, this cavity is formed on wrong lines. It is not



FIG. 3.—Lingual view of distal cavity in cuspid showing linguo-incisal preparation.

beautiful, because it must be cut so far labially in order to make the entire cavity accessible, that the proportions of the outline are decidedly inartistic; and the fact that the lingual plate is not cut away sufficiently makes an inaccessible place at that point which leaves a vulnerable place in the finished filling.

#### DISTAL CAVITIES IN CUSPIDS; LINGUO-INCISAL ANCHORAGE

In Figure 2 we illustrate another preparation that may sometimes be of service to us and is decidedly artistic in its finished form, for the greater mass of the gold is hidden from view. This preparation has its difficulties, however, and is limited to cuspids which are short and rather broad at the incisal edge. The labial outline form is very much the same



as in Figure 1, as are also the gingival and lingual surfaces. We depart radically from that type in our linguo-incisal preparation, however (Figure 3). In cuspids that are short and rather broad at the incisal surface, we are able to cut a step in the lingual surface near the incisal angle. The cutting of this step does two things. By cutting away the tooth distally near the incisal angle, to make this step, we cut away the portion of the tooth that has prevented our gaining access to all parts of the cavity, and we have now, consequently, made all points of our cavity accessible. We have also, by cutting a step at this point, made it possi-



FIG. 4.—Labial view of incisal step cavity in distal surface of cuspid.

ble to gain incisal anchorage. The gingival seat is made flat and the axial walls as nearly parallel as possible; of course they will converge incisally. The linguo-gingival and bucco-gingival angles must be squared out and decided point angles made here. As we must depend very much upon the gingival anchorage, it is well to emphasize these angles, being very careful not to have them degenerate into pits; for a pit, if at all deep at this point, will be very difficult to fill by reason of its having been carried into inaccessible territory. The linguo-incisal step should be made as deep as consistent with pulp safety. And here is the point where your differentiation in cavity preparation must be made. In some teeth a linguo-incisal step would be entirely inadmissible, as a step of any depth cut into this portion of the tooth would

involve the pulp. Study conditions, learn the anatomy of the tooth and the particular type of tooth upon which you are operating, and you will never make this mistake. Where indicated this form of cavity preparation is very good. Access is obtained with the least loss of tooth substance and the cosmetic effect is very good, most of the gold being upon the lingual surface.

#### DISTAL CAVITIES IN CUSPIDS; INCISAL ANCHORAGE

In Figure 4, however, we have the preparation that is indicated in by far the larger majority of cases. I know that this preparation has



FIG. 5.—Incisal view of incisal step cavity in distal surface of cuspid.

come in for a great deal of censure in the past by so-called conservative operators; and yet after years of observation and operation, after having tried many other forms, I must, in all honesty, advise this preparation, as the one that will, in the large majority of cases, best save the teeth that need saving. When a cavity presents in the distal surface of a cuspid and this class of preparation is decided on, a step is first cut in the incisal surface with a flat carborundum stone, after which, with a small round bur, I cut down through the dentin into the cavity. The decay is removed with a spoon excavator or large, round bur, and the general conditions noted. I then chisel out the enamel walls to obtain the outline form, and round off the distal and incisal angles of the step, remembering that curves are more harmonious than angles. With a No. 37 or No. 38 inverted cone bur, square out the gingival seat, making it

perfectly flat, and cut the parallel walls, grooving through the dentin slightly as we come over into the incisal step. The labio-gingival and linguo-gingival angles are square and emphasized with a  $33\frac{1}{2}$  inverted cone bur, and the incisal step prepared with a pit to prevent lateral displacement. Remembering that cavities in the distal surfaces of upper teeth do not have to resist great lateral stress, we need not make our incisal anchorage as deep as might otherwise be necessary. But as all of our incisal resistance must be carried by the gingival anchorage, we must see that the general form of the cavity from gingival to incisal step



FIG. 6.—Labial view of incisal step cavity in distal surface of cuspid.

on the distal surface is of retentive form. The objection that has been made to this form of preparation, is the fact that of necessity a considerable show of gold is made. But owing to the anatomical shape of the tooth the central ridge entirely hides the finished gold from the front, and it is only upon a side view that the gold is manifest. The advantages are the accessibility of all portions of the cavity, and the consequent ability of the operator to perfectly adapt and condense the gold against every surface of the cavity, rendering it possible for him to make a perfect filling where, in the majority of cases, he would otherwise fail. He is also enabled to build out the tooth to its original contour; thereby giving to the patient a tooth that can take its place in the dental arch without apology.

## THE BITE AS A GUIDE IN TOOTH SELECTION

G. W. CLAPP, D.D.S., NEW YORK

THE article on bites in the January number of the DENTAL DIGEST left us with correctly made bites, correctly occluded. While the most important function of the bite is, of course, to determine the relation of the jaws, its aid in the correct selection of the teeth is scarcely less important.

This function of the bite seems to have been but little appreciated in the past and, so far as the writer knows, has never been properly developed. A little consideration shows that both the mechanical and the artistic success of the plates are largely dependent on teeth of proper size and form being selected.

There is no other guide to the selection of the proper teeth save correctly made and properly articulated bites. By means of such bites the exact dimensions of the required teeth may be obtained with surprising ease, accuracy and rapidity, once the very simple technic is mastered.

Do not think such selection is opposed to the exercise of taste and art in the choice of teeth. Most assuredly it is not. Such selection assists art in a most valuable manner. Art in tooth selection deals first with the form and color of the teeth and later with their arrangement. It is practically impossible to determine by the precepts of art alone, the exact dimensions of the teeth required for a denture. But mechanics will give the exact dimensions very quickly and very accurately; and art, using these dimensions as the beginning of its work, determines the outline of the teeth and their shade.

Art need have no hesitation in availing herself of the services of her humble and necessary handmaid—Mechanics, for if Mechanics build the foundation, Art rears the superstructure and beautifies it. As it avails little to beautify a superstructure which stands awry, so art in plate work, without a foundation of sound mechanics, avails little. What good are artistic plates that will not masticate?

With the bites (made as described in the January DENTAL DIGEST) in the patient's mouth, the lips are closed so that they lie lightly touching in repose. An instrument is now placed between the lips and a horizontal line is drawn across the median line. See illustration. The line thus obtained is known as the Rest-line. If the upper bite is of correct length this Rest-line will come about  $1\frac{1}{2}$  millimeters above the labio-incisal angle of the upper bite.

When making the upper bite, we purposely trimmed it vertically to

come about  $1\frac{1}{2}$  millimeters below the line between the lips as they lay lightly touching in repose. The labio-incisal edge of the upper bite, when thus trimmed, locates the position of the cutting edges of the artificial centrals. The projection of the upper teeth below the level of the lip follows nature's course. Nature extends the upper centrals downward in the same manner, in order to give the proper contour to the edge of the lower lip. That beautiful outward roll of the edge of the lower lip which has so much to do with giving expression to the mouth, comes from the fact that the edge of the lower lip rests against the lower thirds of the upper centrals; and by them it is deflected outward. The plate worker who wishes to restore expression to the mouth, must give expression to the lower lip by carrying the upper centrals low enough, so that the lower lip may be deflected by them in the same way.



ILL. No. 1.—Lips lightly touching in repose. Marking Rest-line without disturbing lips.

One of the points of great difficulty has heretofore been to locate properly the vertical position of the cutting edges of the lower teeth. With most plate workers, this has been done largely by guesswork. The Rest-line gives this position quite accurately, since the cutting edges of the lower anteriors are directly on a level with it, behind the uppers, of course.

Without disturbing the lips from their position of repose, put the instrument between them at each corner of the orifice of the mouth and make a vertical mark on the upper bite. See illustration. If the mouth be at all well proportioned to the size of the face it will be found that the distal angles of the artificial cuspids may, with advantage, come at the corners of the orifice of the mouth. Anteriors of this width when exposed in laughing and speaking will be found in harmony with the face. They keep the bicuspid back where they exercise their greatest power in grinding food, and they prevent the mouth appearing unduly

large, by improper exposure of the bicuspids and molars, when the mouth is open.

This dimension of the anteriors, like all the dimensions which will be given, is subject to change by the dentist's judgment. In some cases it must be so changed to secure proper results. But such change should be made only after careful consideration. There is little doubt that in



ILL. No. 2.—Without disturbing lips from position in Illustration No. 1, make a vertical mark on bite at each corner of the orifice of the mouth.

a vast majority of cases the anteriors chosen are too narrow for the face. So generally is this the case, that anteriors which are really of the proper width appear at first to be too wide. Only after the dentist has selected a few sets of proper width and educated his eye in the proportions essential to true harmony, can he reconcile himself to teeth of the correct width. Yet such self-education is essential to artistic plate work.

The patient should now be instructed to raise the lip as in smiling. A High-line should be marked on the bite where the edge of the lip comes; this High-line is valuable in locating the necks of the artificial centrals. The distance between it and the labio-incisal angle of the bite is the length of the exposed part of the artificial central indicated for the case.

Observations of a large number of mouths in which the natural teeth remain, when the persons are smiling without knowledge of being observed, show that three people out of four when smiling raise the upper lip until its edge is on a level with the necks of the natural centrals. In very hearty laughing, this distance is often materially increased and gum tissue is then exposed.

One person in four either does not raise the lip high enough or raises it considerably too high.

Here, as in the matter of getting the width, Art joins hands with Mechanics to secure the desired result. If the dentist thinks the patient raises the lip too high, he may establish the proper High-line in either of two ways. He may have the lip raised to the maximum distance and mark the bite at this point; from this mark he may decide how much the distance should be reduced and reestablish the High-line at that point; or he may have the lip raised as he thinks it would be in a smile, and mark the High-line there.

Those patients who raise the lip too far will expose some gum in any event, but the denture will be more artistic and satisfactory if anteriors are chosen which are a millimeter or two longer than seen at first to be indicated. Porcelain is more beautiful than pink rubber.

The High-line of those patients who raise the lip to a normal distance will require but little alteration. Where the lip is raised but a very short distance the High-line will require to be moved cervically, since teeth so short would manifestly be inartistic.

There is little doubt that many artificial teeth are selected without due regard to their exposure in smiling and to the resulting harmony with the face, or the lack of it. The lengths of the anteriors indicated by the method outlined above will seem to many dentists to be too great;



ILL. No. 3.—Have lip raised as in smiling, by elevator muscles and mark High-line horizontally on wax bite. Lip is here held by finger for purposes of illustration only; it was not so raised.

that is, they will think the teeth too long. But if the High-line has been located with reasonable accuracy, its indications may be fearlessly followed in faces of approximately normal proportions. Many a dentist who tries this method with serious doubts as to its accuracy, will find that it is educating his eye to a correctness of proportions hitherto unknown. The only way to determine its value is to try it. Try it first,

if you choose, in cases which are obviously normal. Its simple accuracy will speedily lead to its adoption, with proper modifications, in practically all cases. Centrals which from neck to cutting edge are as long as from the High-line to the labio-incisal angle of the bite will prove themselves correct in a majority of cases.

It will be shown in a future article that the total length of the artificial central must be slightly greater than the distance from the High-line to the labio-incisal angle of the bite. This is because most artificial teeth have collars designed to help hold them on the plate. It is, however, very easy to allow for the depth of collar by adding a millimeter to the distance from High-line to labio-incisal angle.



ILL. No. 4.—Have lower lip depressed by the muscles and mark Low-line on wax bite. The Low-line locates necks of the lower centrals. The lip is here held by the finger for purposes of illustration only; it was not so depressed.

The length of the lower anteriors is determined in a similar manner. The patient is asked to depress the lower lip by the depressor muscles and a horizontal line is drawn at the edge of the lower lip when it has reached what the dentist deems proper depression; this mark is called the Low-line. See illustration.

The length of the lower centrals is obtained by measuring from the Low-line to the Rest-line of the upper bite. It is because the lower centrals come as high as the Rest-line that (as mentioned in January DENTAL DIGEST) no attention need be paid to the fact that when the lips lie properly at rest the lower bite will be obviously shorter than the lower teeth should be.

The Low-line locates the necks of the lower anteriors in the same way that the High-line locates the necks of the upper anteriors. By its aid we are enabled to select lower anteriors of such length that the pink rubber of the lower plate will be rarely or never exposed. The results from selecting lowers of fully the proper length are so pleasing as to

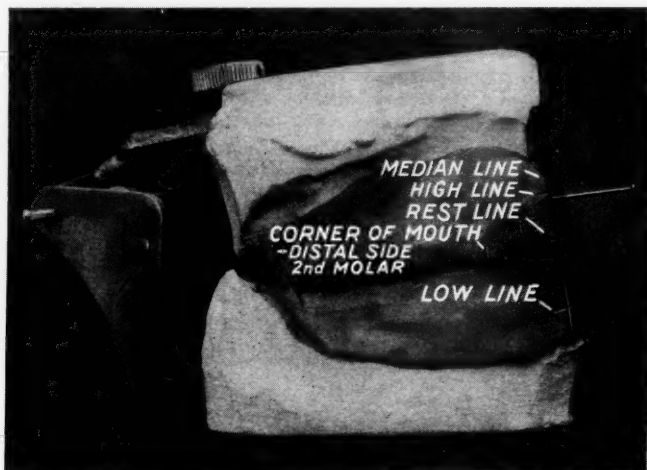


justify considerable care on the part of the dentist. In many cases the artistic value of the plate is increased by ordering lowers somewhat too long, so that the rubber shall never show. This is especially desirable when the lower cuspids remain, but the gum has retreated, and the lower incisors are to be replaced on a partial plate.

The next article will complete the directions for such selection.

The location of the Low-line is subject to modification in the same way as the High-line, but the same caution should be used in modifying it, lest the result be marred rather than improved.

After the bites have been removed from the mouth, the dentist must



ILL. No. 5.—Side view of bite when fully marked. The purpose of the pin will be explained next month.

decide just how far posteriorly the upper teeth are to extend. This cannot be determined from any measurements in the mouth; it can be decided only by examining the formation of the ridges and the amount of their separation. In cases where the bite is extremely close in the molar region, the posterior teeth evidently cannot extend so far back as where the bite is relatively open.

When the desired location of the distal side of the artificial upper second molar has been determined, a vertical mark is made at that place on each side of the bite. It is evident that the fourteen teeth to be selected must be as wide, when set up, as the distance from one of these marks around the bite to the similar mark on the opposite side.

The article on bites which will appear next month, will take up one other very important dimension of the required artificial teeth, and show how to apply all those dimensions practically.

## THE EXPANSION OF PLASTER

BY STEWART J. SPENCE, CHATTANOOGA, TENN.

IN the December, 1908, issue of THE DENTAL DIGEST, page 1598, appears a statement by Dr. L. P. Haskell concerning the effect of the expansion of plaster-of-Paris which, it seems to me, ought not to be allowed to pass unchallenged. He says:

"It is a mistake to suppose that the shrinkage of zinc is an advantage, for the expansion of the plaster impression contracts the opening; the expansion of the model can be only outward, and is in reality a trifle smaller than the jaw instead of larger."

Let us consider his statement: "The expansion of the plaster impression contracts the opening." By "opening," Dr. Haskell no doubt means the area of the impression; so that, if this be true, the distances from the buccal and labial margins of the impression to the central point, are lessened instead of increased by the expansion of the plaster. The central point of an impression may be considered as at about the place where the rugæ meet with the palatal dome, and we must think of expansion as radiating outward from this point to the extremities.

Now, how Dr. Haskell can conceive that an expansion which radiates outward can decrease any portion of the surface that extends away from the center, I am at a loss to imagine.

Let us suppose, in order to simplify the problem to our minds, that the surface of the impression is entirely flat (as some impressions well-nigh are). Now let us take a pair of compasses, and setting one of their legs at the central point, describe with the other a circle which shall represent the buccal and labial margins of the impression. Let us suppose this circle to be described before expansion begins. Now, is it not perfectly obvious to our minds that as the areal expansion of the plaster takes place, this circle must become wider? Surely so. But Dr. Haskell says it contracts. How? Will he explain?

Dr. Haskell then proceeds to assert that "the expansion of the model can be only outward, and is in reality a trifle smaller than the jaw instead of larger." This is, of course, a repetition of what he said about the impression, and equally puzzling. Surely if the expansion of any body is outward its area must be a trifle larger, not smaller, to the extent of this expansion.

But it is not a fact that the expansion of a model is *only* outward; for besides the expansion of its area or surface, which we may term its lateral or areal expansion, there is an expansion of its thickness, which we may term its vertical expansion. Now, if an impression or model were of equal thickness throughout, as would be the case with a perfectly flat mouth, the expansion of all parts of the thickness of the impression would be equal, and therefore no evil could result; but where thickness is unequal, it is evident that the thicker parts expand most. Thus in the impression the thick plaster forming the palatal roof expands more than the thin plaster over the alveolar ridge, and thus tends to produce a plate which will bear too hard on the palate, and in the model the thick plaster of the ridge region similarly expands more than the thin plaster over the palate, with like result; that is, tending to cause the plate to bear too hard on the palate. And as a little of this vertical expansion is as bad in its effects on the plate as is much areal expansion, therefore, Dr. Haskell's statement that "the expansion of the model can be only outward" is doubly misleading.

I cannot understand Dr. Haskell's saying that the expansion of the model can

be only outward, except by supposing that he means that the expansion of the impression is, on the contrary, both outward and inward. In fact, it would need to be inward in order to "contract the opening." Does he mean that the impression expands outward until its upturned buccal and labial portion is reached, and that this portion then turns inward? If so, there is a grain of fact in this, but not enough to deserve consideration. It is, that expansion of the thickness of these upturned walls of plaster must, proceeding from the center of a thickness of usually about one-quarter inch of wall, cause the buccal surface of the impression to incline nearer to the palatal by the amount of expansion appertaining to one-eighth inch; or perhaps a trifle more. This would help matters but little.

But there is an important consideration which must not be overlooked in studying this intricate problem of expansion. It is this: in the effort of the plaster impression to expand outward, it is met by the resisting walls of the tray's flanges. Now what does it do? Does this resistance prevent the areal expansion of the plaster and cause its molecules to crystallize in less space than they do when unconfined? Yes, surely something of this sort must occur, else plaster poured into hollow, iron balls would burst them; that it cannot be depended upon to act thus in every case I have demonstrated by flowing strips of plaster about a foot long on a wooden board between cleats and have seen the strips bow up at their centers sometimes a half-an-inch from the board. Now, this is exactly what often occurs with a plaster-of-Paris impression. I have seen them so bow up till there was only the space of about a millimeter between tray and plaster at the posterior border of the palatal dome. I have also seen models act similarly, bulging up at their palatal domes, till there was a large space between model and impression.

However, impressions and models do not always act thus. For besides the before-mentioned compression of the plaster by the resistance of the tray's flanges, there is another factor tending to prevent this form of warpage, to wit, that the lateral expansion of the plaster has enough power in it to force outward to a slight extent the flanges of the tray. If anyone doubts this, he may easily certify it by removing an impression from its tray and then attempting to replace it. He will find (unless the impression has bowed up instead of expanding laterally) that the impression cannot be returned home to the tray, but will so bear upon its flanges as to prevent contact of tray and plaster at the dome.

Thus we see that the behavior of plaster of Paris in an impression and model is intricate and irregular—not at all a simple problem. We see that it departs from its correct form both by vertical and lateral expansion; that the resistance of the tray's flanges partially but not fully withstands the lateral expansion, but that often when resisted laterally, the plaster finds escape by bowing up. In the closing of the flask in vulcanite work it plays further tricks, and during vulcanization yet more. Indeed, plaster is a very treacherous article, innocent and snow-like though it appears. In contemplating it I am reminded of Bret Harte's Heathen Chinese, who, though wearing "a smile that was child-like and bland," has twenty-four jacks secreted up his sleeves during his little game with Bill Nye and Truthful James, and my mind reverts also to Halleck's graphic description of an Indian chief:

" With look like patient Job's eschewing Evil;  
With motions graceful as a bird in air;  
Thou art in sober truth the veriest devil  
That e'er clutched fingers in a captive's hair."

Nevertheless, I am not yet ready to believe that plaster of Paris can execute so fine a piece of puzzlery as that of reducing its area by expansion, not even on the assertion of so distinguished an authority as our revered and beloved Dr. Haskell.

## NEEDED CHANGES IN THE MAKE OF TEETH

L. P. HASKELL, CHICAGO, ILL.

AFTER all these years of experience in the manufacture of teeth they are seriously defective.

Many dentists realize the defects but make no complaint. Others have called attention to the subject, but without avail.

The faults are mainly in the bicuspid and molars. One of these is in the lack of mastication surface. Small, thin, narrow surfaces totally unfit for the object.

Another fault, and a very serious one, is found in the relative length of the cusps. In nature the lingual cusp of the upper is shorter than the buccal. The lingual cusp of the lower is longer than the buccal. In the greatest number of all makes of teeth the cusps are of equal length. It is impossible to articulate these teeth with lower natural or artificial teeth, so as to bring the buccal cusps in proper alignment with the anterior teeth without grinding the lingual cusps very much. Then comes another difficulty in the pins being so high, even in long teeth, that it is necessary to grind away the entire cusp.

Except in very short teeth the pins can be placed lower down, so as to allow of more porcelain above and a shorter cusp.

I have called attention to these defects for many years without avail, until I made the suggestion to The Twentieth Century Company. They have made some improved moulds, carrying out these suggestions, which to me are very satisfactory.

Six of such moulds—48, 56, 86, 87, 90, 92—I have found are all that are needed, as there is not as much difference in the bicuspid and molars in nature as in the anterior teeth, and yet one catalogue has 100 moulds of upper rubber bicuspid and molars.

Another very serious fault is in the excessive width of the lower anterior teeth, and this applies to all makes of teeth.

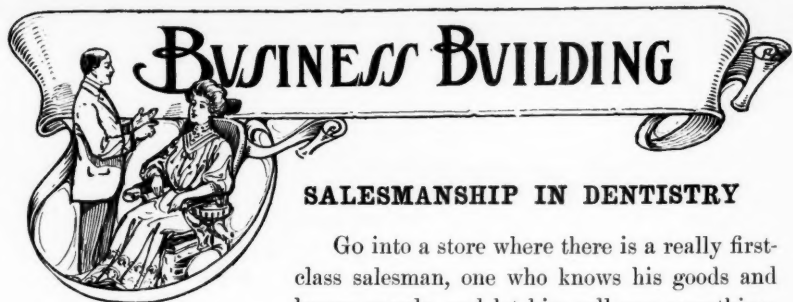
The lower fronts are too wide for the upper. As they are placed on the cards they are end to end. If they were to be worn this way it would be all right, but in 95 per cent. of mouths the upper teeth overlap, necessitating a shorter curve and, of course, narrow teeth. In arranging a lower set, one should begin with the second bicuspid, then the first, and then the anteriors. This being done, it is found the fronts are generally too wide. Here a change should at once be made.

Another serious fault is in the shade number on the card not corresponding with the shade guide. This is very often the case.

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## QUESTIONS AND ANSWERS

SEVERAL subscribers have asked for a "Questions and Answers" section in THE DENTAL DIGEST. We shall be pleased to offer such a department when questions are received. Send along your questions.



## SALESMANSHIP IN DENTISTRY

Go into a store where there is a really first-class salesman, one who knows his goods and knows people, and let him sell you something. If you're shrewd you'll learn enough to pay the bill several times.

Here are the things to watch for and apply afterward to your own practice.

*First.* The salesman's motive. Most good salesmen get a commission. This is greater from a greater volume of business; therefore he is planning to make your purchases as large as seems wise. You'll not see his intentions, but they are there, and they govern his course.

*Second.* He is anxious to serve you. A really good salesman places at your disposal all his knowledge of the goods. In a reputable store he will guide you wisely in selections. He will always lead you away from the cheap, transient article toward articles of quality. He wants you to get the best.

*Third.* He will say as little as possible about price, and what little he says will be in such a way as to make price secondary in importance. Note this especially. His talk dwells on what you are to get, never on what you are to give. He seems to say "All this value for so little money."

*Fourth.* He occupies himself with creating wants in your mind. He makes you want things by telling how desirable it would be if you could gain such and such an end. His first task is to build just as big a want in your mind as possible. All his information, all his knowledge of goods, are directed toward this end first.

Maybe you're buying shoes. He first gives you a shoe shaped for your foot. He explains that you need so much room for the foot to spread when standing. Then he gives you a shoe that is soft and comfortable, that has a good counter and heel; that will take a good polish; and that will wear out half a dozen soles. You can't get all these things in a cheap shoe. But by the time you've had them all explained, you don't mind if the price does seem a little high. You pay it because he made you want the qualities.

*Fifth.* If you try to go back to the cheaper shoe you are not satisfied. It doesn't fill the picture he built in your mind. The cheaper shoe is not so well made or lined; it is stiffer to the foot,



it will not polish so well; it will not last so long. The pictures he built and the wants he instilled in your mind govern your action.

*Sixth.* He makes you think the price unimportant. If it seems high, he points out that it is only temporary. What you are buying will give you service and pleasure long after the price is forgotten. He gets you to view the price in the same way he does.

How can these tactics be applied to dentistry? Very easily. No shoe salesman ever has such opportunities for conferring on the purchaser the greatest physical benefits, as has the dentist. While the shoe gives comfort and service, which, of course, we must have, good teeth give, in addition, the benefits of properly masticated food; these are strength, health, and perhaps life itself. They affect also the appearance and the speech. No arguments which any vender of merchandise can offer as to choice between poor and best, between temporary and permanent, between sanitary and unsanitary, approach in strength the arguments which the facts afford the dentist.

The dentist is fully justified in presenting these arguments to his patient with all the force which truth lends. Indeed, he is unfair to his patient as well as to himself if he does not so present them. Not all patients want the cheaper forms of dental work. But many of them

have been accustomed only to such forms of work. Careless or ignorant dentists have persuaded them that such forms of work are "just as good." It may take a little time to persuade such people into better forms of work, but a majority can be brought to see that such forms are best, and to accept them.

Many of the more intelligent patients grasp at once the advantages of the better forms of work and heartily appreciate the service of the dentist who offers them.

The dentist who offers only his lowest priced services is like the storekeeper who sells only his cheapest wares, while his best and most satisfactory goods lie shop-worn and unused on the shelf.

Here is an actual case of how these arguments were applied:

A patient came in with only the upper centrals, laterals, cuspids and a right upper second molar. On the lower jaw, he had the lower left second molar and the lower right bicuspid and molars. Of course, he could not eat to advantage.

He went to one dentist. This dentist was a good workman, but not a good salesman. He didn't take the pains to explain to the patient the possibilities of his art; the different methods by which he could meet the patient's needs. He didn't create any mental pictures. He offered to make two vulcanite partial plates for \$25. The man went out not satisfied. It was in the country. He drove thirteen miles to another dentist who may have been no better mechanic, but was a better salesman. This dentist saw the possibilities in the case. He first offered the partial plates and used them as a starting-point. Then he described removable bridgework, its steadiness, its comfort, its cleanliness when made on a gold base. He told only the truth. And the patient ordered two Griswold removable bridges at \$85 each. That is \$145 more than the first man would have charged. But the second dentist painted the pictures in the patient's mind that only those bridges could satisfy.

What was the result? The lower bridge gave perfect satisfaction for several years. The upper bridge needed remodeling. This the dentist did without charge. His patient was satisfied and happy. He appreciated his bridges. And he sent new business to that dentist.

If you get good prices for your work, this article is not for you. If your chauffeur calls for you in an automobile, if you can ride about and view your different properties; if you have a competence against old age this article will not help you.

But if you are seeking to extend your practice, to make it more remunerative and to keep it professionally of the best character, the adoption of such methods will prove very successful.



## THE SECRETARY'S OPPORTUNITIES

(BY A DENTAL SECRETARY)

(THE young lady who furnished the material for this and the articles to follow is reputed as one of the ablest and most valued dental secretaries in this country. She presides over a busy office and conducts its activities, save the professional, with that truest of art which conceals all art.

It is her belief, and that of her employer, that any busy dentist can, by the aid of a competent secretary, build up an organization like this which will avoid interruptions, economize time, conserve the energies and make the practice of dentistry a smoother and straighter road to the gateway of success.

It is to be regretted that this lady's modesty, and that of her employer, do not permit us to mention their names.—EDITOR.)

In almost any office where the practice is sufficient to comfortably occupy the dentist, great conveniences and economies may be effected by the employment of one capable of assuming certain office duties. The more competent the employee, the greater will be the scope of the responsibilities she will finally assume, and in the course of time she will become almost invaluable to her employer.

Perhaps the thing which will most determine her usefulness, especially at first, will be the dentist's attitude of mind toward her. It should be what I may call the coöperative attitude. That is, he should regard her as a fellow worker. I am sure it is this attitude of respect and confidence which has made possible the organization in our office, and which some have seen fit to praise.

My employer started me with few responsibilities, and as these were mastered, others were gradually added, and when I made errors he neither nagged nor lost confidence; with such inspiration spurring me on, mastery of my tasks could not be otherwise than rapid. But, had I been pursued by watchful, prying eyes, peering here and there to spy my errors, I should have made many more mistakes, and I could have gained no confidence.

The duties of a secretary will vary with the number of operators, the number of patients seen daily, and the number of maids employed. Probably the ideal condition under which to train a secretary is to have her begin when the practice is small, and when the dentist and she constitute the entire office force. By constant association with him she will learn many things otherwise impossible; as the practice grows these will increase her value immensely. In the average practice it is almost necessary to employ two maids. One, dressed in a nurse's uniform, who



will assume charge of the sterilizing of instruments, and the returning of them to their proper places in the cabinets. Also the sterilization of rubber-dam, coats, towels, combs, brushes, etc. Besides this, she must keep the operating rooms clean and in order, and always ready for the reception of a patient.

The second maid performs the duty of opening the door, announcing patients to secretary (who in turn informs the doctor by means of the telautograph), answering telephone, preparing X-ray room for the taking of radiographs, and keeping reception, clerical, X-ray and dressing-rooms clean and tidy.

This girl wears the regulation housemaid's uniform.

In addition to this help, there is a woman employed, who gives the entire suite of offices a thorough cleaning at least once a week.

It should be the aim of a secretary or manager to keep from the doctor's knowledge all callers with the exception of patients with regular appointments. The seeing and dismissing of agents or representatives of various wares, is probably the greatest time-saving service that could be rendered a busy dentist.

The making of appointments goes under the heading of clerical work. These are made without the doctor's assistance, except in special cases requiring a different course of treatment from the usual way. Then by means of the intercommunicating phones these matters are readily adjusted without the expenditure of time or steps.

If an error is made, such as leaving insufficient time for an operation, it behooves an employer to bide his time and explain the cause of congestion, after the patient has been dismissed. The upbraiding or even reproving of one who is reputed to take entire charge, in the presence of a patient, is not only embarrassing for the secretary, but immediately depreciates her value in the minds of the patients who have heretofore placed implicit confidence in her judgment.

Assisting, or waiting upon a dentist at the chair is, to the understanding of my employer, superfluous. If there is a place for everything, and everything in its place, an operator can do for himself in equally as short a time as it would take an assistant, unless she be one with an exceptional training. Another thing to be considered is the possibility of an assistant causing the patient nervousness or uneasiness by being in constant attendance.

This rôle of service should never be considered the duty of a secretary, who could not be spared from her numerous tasks of greater importance, and who would surely be a blundering helper. Probably this could be better expressed by bringing to notice the old proverb "Jack of all trades and master of none."

A very important factor to be thought of, and one which should appeal to the average dentist, is the up-keep of a stock room in which a generous supply of those things which are used daily are stored. This room should be carefully and systematically watched by the secretary, and as the numerous articles are used, others should be ordered to take their places. No doubt this means extra thought and work, but it more than pays for itself. Embarrassing exhaustion of supplies, at critical moments, will never occur when this method is used.

Last, but not least, remains the all-important dressing-room. This should contain as few furnishings as possible; a true mirror of generous proportions, a chair, an ample supply of fine towels, a good light and free ventilation, constitute an ideal dressing-room. Any added want may be supplied by pushing an electric button which summons the maid. She has at her disposal for the comfort and convenience of patients a new sterilized tooth-brush, with dentifrice in a sealed envelope, a sterilized comb and brush, in a similar package, powder, paper and a glass of mouth-wash, all on a silver tray. These things, with the addition of a small sewing or work-box to temporarily mend an accidental rip or tear, will supply the wants of the most fastidious.

It is true that the buying of these articles consumes money, but are we not living in an age when the tastes and ambitions must be gratified and the very idea of expense be far from us?

Next month I shall endeavor to explain how an effective organization can be established in an office handling large numbers of patients daily. Perhaps this can be the most helpfully done by describing a day in the office where I am employed.

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## NERVOUSNESS: ITS SIGNIFICANCE AND TREATMENT

DURING four years, viz., from 1900 to 1904, diseases of the nervous system were responsible for more deaths than any other class of ailments. A bulletin on health statistics has just been issued by the United States Census Bureau, which claims that no less than 302,876 persons died from some nervous disorder during this period. This large number of deaths is even greater than those who died from more common fatal tendencies of tuberculosis, typhoid fever, malaria, infectious fever, alcoholism, cancer, pneumonia, and even the epidemics of yellow fever. Hence nervous diseases take precedence of all other classes of diseases as a death producer or destroying agent.—*The Alienist and Neurologist*.

# BROTHER BILL'S TRAVELS



MY DEAR JOHN: I'm so tired you ought to be able to see my shoulders droop clear from where you are. No! I haven't been working hard—it's worse than that—much worse. I've just returned from an evening at the Dental Society, and they've been discussing papers. I don't know how much of a sinner I've been in the past, as a discussor, but all my sins have come home to roost. As I look back at some of the discussions at our local society through the glasses of this evening's experience, I guess some of them have been pretty windy. But I've been sort of half daddy to that particular society for ten years past. And I guess I've just sat and purred, like a well-fed tabby, through a good many meetings that would have been greatly improved by dissolving a few more ideas in the sea of words.

We had a fine paper by a really big man. There was no dress-suit fussiness about him and no prelude of foolish excuses. He knew his subject; he had put in a lot of hard work to get it in shape for us, and he gave it in fine form; not a necessary fact left out; not a foolish fact in; and not a word wasted.

As we sat waiting for the paper to begin, I looked around the audience and what I saw made me feel mighty comfortable. It is a big meeting and some big men are here from far away. I recognized Dr. A——, who must have come 300 miles, and Dr. M——, who came at least twice that far, and many other men of note. I thought, "What a tribute it is to a man and a cause, when so many men of note will assemble to honor him." It makes me smile now that I've had my "seein' glasses" on a whole evening, to think I could have been so simple. Bless your heart, John, those men weren't there to honor B—— or his paper. They were there, waiting for chances to jump into the lime-light at the earliest opportunities and stay as long as possible; they attend to get themselves called on; to hear the sweet sounds of their own voices; and to appear in print afterward. But I didn't know this early in the evening and I wholly missed the significance, when, just as the president rose, Dr. M—— softly tiptoed from a front-row seat, clear across the front of the audience, and out at the side.

The subject of the paper was "Simple Prophylactic Measures for Children." I enjoyed every line of it. It contained some good, new

things and a lot of old ones made plainer. And it left fine suggestions for those who were to discuss it.

When the applause subsided the president called on Dr. A—— to discuss it. I've always wanted to hear this man speak; I wish now I never had heard him; then I could keep my admiration for him. He started in very modestly and sensibly, but soon the sound of his own voice grew sweet to his ears. So he just detached his brain and let his mouth run on, while he listened. And it ran everywhere. In five minutes he had left the course laid out and was off over chemistry, bacteriology, operative dentistry, prosthetic dentistry and surgical treatment of infant diseases. He didn't say anything on any subject, just touched it in a light, airy way to show he knew something about it, and passed on. Finally, after twenty minutes talking, he rang the bell on himself, switched his brain into the circuit again, and with a single pertinent remark on the paper of the evening, sat down.

He was the first one and we weren't so tired then, but I was getting my eyes opened. I haven't any "half-daddy" feelings toward this society and I didn't sit and purr as I would have done at home. So I observed pretty closely. The next man spoke about twenty minutes, in excellent sense. He was there for the paper. He had profited by it and he wasn't talking to hear himself. It was like a delightful breeze on a hot day. When he was done he was applauded in a way that meant something. The next three men were full of words, words, words. They didn't come to hear papers, or to benefit the society, or anything else like that. They came to get a chance to talk. And when each got it, he talked till he ran down.

Right next to me sat a big, strapping, Canadian with a good face and pleasing way. As this river of words flowed unendingly past, he got more and more restless. He had about as choice a private collection of names and swear words as I've heard in quite a spell. And he kept up a running fire of comment on the speakers that I enjoyed immensely. Finally, when the fifth man had sat down, he couldn't stand it another minute. He popped to his feet, shook a long arm at the president and fairly bawled, "I've come four hundred miles and given a week's time to attend this meeting. I've heard a good many words, but mighty little sense. It's be damned if you do, and be damned if you don't. Now, I'd like somebody to settle something."

It was just what we all needed, and we stamped and clapped and stamped again.

Yet right after this the president made the biggest mistake of the evening. During the last two or three minutes of the paper Dr. M—— had tiptoed across the front of the hall again to his front row seat. The

president knew him to be a man of reputation and felt that he ought to be called on to speak to the paper. (I've done the same, but shades of George Washington! I never will feel that way again about a man in that class). So in a few neat words of introduction, he asked Dr. M—— to speak on the subject. Well, John, when he rose, buttoned his evening coat, threw out his chest and struck an oratorical attitude, it all came over me in a flash. The way front seat, the tiptoed exit when he was the only moving figure in the hall, the studied return under the same conditions, were as carefully arranged and theatrically executed as the moves of a real prima donna. And I knew he wasn't there to honor



"I've heard a good many words, but mighty little sense. Now, I'd like somebody to settle something."

B—— or his paper or the society; but his sole aim was to aggrandize M——. His talk proved it. He referred to the title of the paper and its honored author and then launched out on his own lines. He told about *his* travels, *his* investigations, etc. He described the differences in the teeth of the Irish, Scotch, English, German, French, Italians and Americans as *he* had studied them in their native haunts. There seemed to be no end to it. Even the president got nervous and with many apologies, ventured to call the speaker's attention to the subject of the evening. He said "Ah! yes, I remember," and then launched out on a twenty-minute discussion as to whether pyorrhea is systemic or local.

He was finally turned off just in time to save some of us from nervous prostration.

As I said before, I'm tired out, but I've gained more light on the subject of discussers than I ever had before. They're divided into two groups. One of them is composed of modest, hard working, conscientious dentists who have the good of the cause at heart and who prepare a paper for the good it will do, or discuss it from the same viewpoint. They are the heart and life of every society. Sometimes they're not easy speakers, but that makes no difference. They should be helped and developed and given their share of honors.

The other group is composed of men who are naturally fluent speakers. They are so coddled by every presiding officer, they are called on so in season and out, that it sort of goes to their heads. They get to love to hear themselves talk; and then it's all off.

When next I preside at our society there'll be some fun. I'm going to keep D—— and O'B—— and H—— sitting down if I can. I can see through them now like I can through a ladder. And if I can't keep them down, I'm going to gently but firmly show them the limits of the evening's discussion; and if they jump the fence, I'm going to yank them back right then and there, and we'll have a meeting that night anyway.

I'm happy over what I've learned, and wherever on this trip I meet a dentist who is, or is likely to be, a presiding officer, I'm going to show him how to diagnose these "talking machines" and shut them off. He needn't be afraid of their feelings; they're like paper in our range stove; they'll put his fire out; and the less he has of them the better off he'll be.

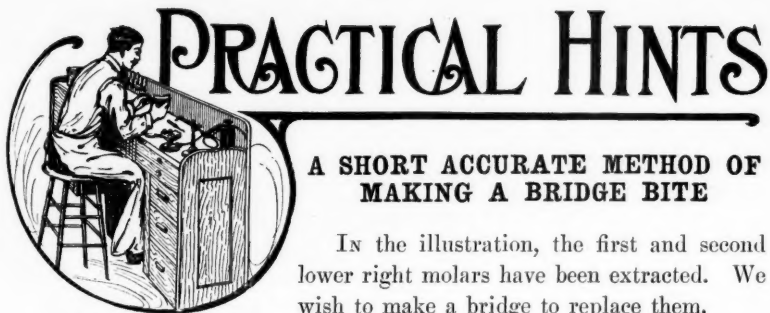
Yours sleepily,

BILL.

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### SUGGESTIONS AND CRITICISMS

THE editor of THE DENTAL DIGEST will welcome criticisms and suggestions which will tend to help eliminate weaknesses or will add strength and value to the magazine. If you know what you want in a journal, write it. If it's really valuable and we can provide it, you will be likely to get it.



## A SHORT ACCURATE METHOD OF MAKING A BRIDGE BITE

IN the illustration, the first and second lower right molars have been extracted. We wish to make a bridge to replace them.

Make the crowns and place them in position on the teeth. Mix plaster as for an impression and with a spatula place a considerable quantity of the soft plaster over the crowns and teeth. Have the patient close the teeth and instruct them to shove the plaster up against the lingual side of the teeth with the tongue. Mould the plaster about the buccal side by pressing on the outside of the cheek. Have the patient hold the jaws perfectly quiet until the plaster is thoroughly set. By examining the teeth on the opposite side of the mouth, you can tell whether or not the patient has given you the correct bite. When the plaster is thoroughly set have the patient open the mouth. Usually this

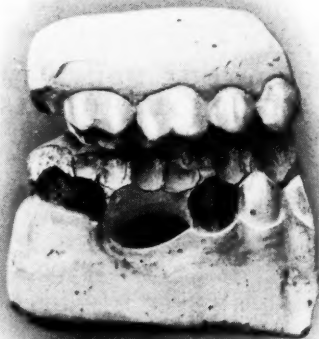


Illustration shows the lower model in position on the lingual impression, which we use for an articulator. The upper model is above just ready to slide down into its position on the lingual impression. A hole has been cut out of the impression between the two crowned teeth to make room for the dummies.



will break the impression apart. You then remove the pieces, take the crowns off the teeth, and place them in position in the impression. Put your impression together, holding the pieces in place with some sticky wax. Thoroughly shellac the impression. Pour the lower half; after this has set, pour the upper half.

When your plaster of the models has thoroughly set break away the impression from the buccal side of the model. This may be broken away in pieces as we are through with this portion. After breaking away the impression from the buccal side carefully remove the models from the lingual impression without destroying it, as we wish to use this for an articulator. Place your lower model in position on the lingual half of the impression. Now place your upper model in position. You will see that you have the exact relation of the two jaws with no possible chance of a mistake, as there is where you make two models, and articulate them in a wax bite. There is always that chance that the models may be tipped a little one way or the other, and that we have not obtained an absolutely correct articulation. With the method I have just described there is no chance for a mistake; there is only one impression to take and we need not mount our models on an articulator, as we use the lingual impression for an articulator.

When you have placed your models on the impression you will see that the portion of the plaster between the teeth where the dummies are to go, is in the way of putting in the dummies; so cut that portion of the impression away, leaving an open space in which to place the dummies.

## THE PREPARATION OF THE MOUTH, IMPRESSION AND MODEL FOR THE SEATING OF BASE PLATES

By J. A. BULLARD, D.D.S., CHICAGO, ILL.

. . . WHERE there has been the extraction of a number of teeth, the process, if broken, should be looked after; removing sharp rough edges and loose pieces, and the gums made as smooth as may be. . . .

We do not know why the alveolus is absorbed away so excessively in some cases and not in others, but a very accurate opinion can be formed as to whether it is going to take place or not before the teeth are gone. To cite two extreme cases; first, where the process is very dense and heavy, the teeth have long roots and short crowns, but have been lost through caries, with, however, no diseased condition of the roots and no tendency toward pyorrhea; if there is not too much damage in extracting, the process in these cases will not absorb away excessively,



but will change very slowly through life, and the soft tissue will remain hard and dense over it.

On the other hand, where a case presents with the process thin and frail and perforated by pus tracts, or where the teeth are being lost from advanced stages of pyorrhea, there will be a great change after the teeth are gone and the gums healed. The remaining process will rapidly absorb, and in a few years almost entirely disappear.

A plate made for the first case, six months after extraction, might be worn without much discomfort for ten or fifteen years; while for the second case the plate would have to be changed every two or three years and would need considerable attention in trimming the rims and edges to avoid injury to the soft tissue as the ridge absorbs.

The reasons for the required relief of the palate of an upper plate are: First, running through the palate on the median line usually there is a hard, bony ridge. This ridge varies in size from being nearly invisible to the eye (but can be felt by the finger) to a large, bony formation, perhaps three-quarters of an inch across. This area of the mouth being hard and the gum tissue soft, it is necessary to construct the plate so that it may rest harder on the gum tissue than in the center of the palate.

Second, the hard structure of the palate does not change in form but slightly during the platewearing period of life, while the alveolar ridge absorbs away. The relief allows the plate to follow this absorption of the ridge and still avoid heavy pressure in the palate, and renders the plate useful for a long time.

The third reason for relief is to allow for the inaccuracy of the plaster model caused by the expansion of the plaster of the impression and model in setting.

In some mouths the ridge is very uneven, caused by teeth having been extracted at different times. Where they have been out the longest, the gum may be soft and spongy; and where the extraction has been of more recent date, the process is hard and prominent.

To even up the pressure on the ridge and avoid the rocking of the base over the hard points, scrape the soft ridge on the model, and cover the hard points with tin foil.—*Western Dental Journal*.

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### **"A FORLORN HOPE FILLING"**

GOLD Inlays by the processes now in use have done much to simplify many operations in dentistry. They have also made possible many restorations by filling where a crown was formerly placed. But these

extensive restorations are rare, compared to the total number of gold inlay restorations.

There are signs that the passion for inlays is subsiding somewhat. That means that they will be used with more intelligence; that the technic will be properly developed by our leaders and transmitted to us. We shall then use inlays where they belong. The technic will be rational and we shall succeed better.

Until such rational technic is reached, here is a filling which will do most excellent service where no other filling will be permanent. It can be successfully inserted by any painstaking dentist. It requires little time and is inexpensive.

Take the case of a molar so extensively decayed that only thin buccal and lingual walls and possibly the anterior or posterior walls remain. The pulp has either retreated or has been removed. Ordinarily only a crown would preserve this tooth. The following "forlorn hope filling" will often be found to answer well for many years.

Remove all decay and shorten all *very* frail walls at least one-third of the way from the occlusal surface. That leaves the walls about two-thirds the original height. Put a matrix about the side of the tooth where the approximal wall is gone. Put a separator against it at a level with the floor of the cavity. Separate the tooth from the adjoining tooth on that side. Let the matrix tip away from the tooth to be filled at the occlusal surface. This will produce an exaggerated contour.

Have alloy and mercury ready to mix quickly to make the filling. Then mix cement till it becomes sticky. Place a thin layer of cement on the cavity surface of each wall and a drop on cavity floor. Do not use an excess of cement. Mix the amalgam medium stiff and fill cavity a little above the level of the occlusal surface. Extend it to be flush with the buccal surface of the walls which were cut down. Condense the amalgam thoroughly. Trim off the excess and allow it to crystallize before the final trimming.

After crystallization, remove the matrix and burnish the approximal surface smooth. Shape the contact point as desired. But remember that by leaving a small contact point well extended, the gum in the interdental space will be well protected.

Carve the occlusal surfaces as desired to give proper articulation and burnish smooth. The amalgam extending over the shortened walls will protect them from occlusal shocks.

Such a filling will often last for years and give all the service the finest gold inlay could. It is much better for the tooth than a crown. It can be quickly and easily made. And if patients are educated to the benefits it will confer, a price can be gotten which will make it profitable.

*Sterilization of Forceps.*—The forceps, including the handles, are boiled in a solution of common washing soda, about a quart of water to a piece of soda the size of a walnut, and there is no rust. A mixture of vaseline and carbonic acid is rubbed on the joints while they are hot, which keeps them as good as new.—F. E. GARNER.

*To Sterilize Stones.*—Brush the stones, whether grinding or polishing stones, clean with a brush and soap and water, then dip in a five per cent. solution of formalin in alcohol.—*Tri-State Dental Record*.

*Repair of Broken Model.*—Mend a broken model with thin oxyphosphate cement, allowing it to harden thoroughly. It will not break again in the same place.—*Dental Century*.

*To obtain Duplicates of Plaster Models.*—Soak about 150 leaves of common gelatin in cold water for from one to two hours, gradually adding four or five ounces of oil, constantly stirring. Place the model in an enamel vessel and pour the above mixture over it. After about three hours it will have hardened, when the model may be removed and any number can be poured.—F. A. B. (*Dental Office and Laboratory*).

*A Cheap and Handy Asbestos Block.*—Take about a yard of asbestos rope, to be obtained at any hardware store, and make a flat coil of from two to four inches in diameter. Cover with a mixture of plaster of Paris and pumice with some shreds of asbestos fiber. While still soft, insert as legs three flat-headed nails to form an equilateral triangle.—*Dominion Dental Journal*.

### PUBLISHER'S NOTE

COMMUNICATIONS regarding subscriptions prior to January 1, 1909, frequently reach us, being sent, no doubt, from lack of knowledge concerning the change of ownership.

We purchased THE DENTAL DIGEST on January 1st and began its publication with the January number. With the affairs of the magazine previous to that date we have no connections. Communications relating to THE DENTAL DIGEST previous to January, 1909, should be addressed to Dr. J. N. Crouse, 2231 Prairie Avenue, Chicago, Ill.

From correspondence we have received, we are convinced that the continuation of subscriptions after yearly expiration causes misunderstandings and dissatisfaction, and it will, therefore, be our policy to discontinue sending the magazine at the expiration of the period paid for.

THE DENTISTS' SUPPLY CO., PUBLISHERS,

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**THE SURGICAL AND THERAPEUTIC  
ASPECT OF MAXILLARY READJUST-  
MENT, WITH SPECIAL REFERENCE  
TO NASAL STENOSIS, HARE-LIP,  
CLEFT PALATE, AND SPEECH**

GEO. V. I. BROWN, A.B., D.D.S., M.D., C.M.

LONG ago, by many writers, with countless variations and in an almost endless chain of etiologic theories, the terms "arrested development," "excessive development," and "perverted development" have been used with reference to every form of asymmetrical or otherwise unusual bodily development.

The net result of one or more of these conditions affecting the oral cavity is irregularity. This is equally true of the nose and of other associated parts accessory to this region, as it indeed pertains more or less indirectly to more remote or to the human organism as a whole.

In harmony with these facts, we find it also true that, with irregular dental arches and deformed palates, a defective nasal form or development is always present in greater or minor degree. . . .

Through the study of the grosser deformities of hare-lip and cleft palate, of the effect of mal-directed force expressed through abnormal muscular action and unnatural breathing, as well as arrested development and consequent malformations due to early compression of the maxillæ of infants in an effort to close the palate, it has become apparent to me that by the rearrangement of the maxillary bones much might be done that could not otherwise be so well accomplished. I believe this to be true with regard to dental irregularities also, and that by this means a large proportion of orthodontic procedures now practised would be rendered quite unnecessary.

Whatever the etiologic factors may be, or however well they may be explained, the fact remains that with deformities such as deflection of the nasal septum, spurs, and other conditions which bring about partial or complete nasal stenosis, as with most dental irregularities, the one great requirement in attempting cure with larger breathing-space is, more room for the oxygenation upon which healthfulness of the more or

less hypertrophied tissues depends, and more room for erupting tooth-crowns.

Authors in this country and in Europe have devoted much thought to causal factors of deviated nasal septum, of intranasal deformities, adenoids, enlarged tonsils, crowded dental arches, dental irregularities, and other abnormal conditions in these regions so frequently found in the same individuals.

The dental irregularities and the high, narrow palatal vaults have been ascribed to the adenoid vegetations and to the nasal defects which caused mouth-breathing, and again, adenoids and enlarged tonsils have been attributed to dental irregularities. The adenoid vegetations have been held to be entirely due to want of nasal breathing and insufficient oxygenation. Some authors have associated these defects with heredity, and to that have laid all the associated ills, to the complete exclusion of other factors, such as imperfect physiologic respiratory effect, abnormal muscular action, and the influence of other factors directing or misdirecting developmental processes. In short, from thumb-sucking and accidental injury to the more complicated embryologic and physiologic factors the way has been paved with theories—all more or less correct, but each in itself insufficient to cover all these conditions.

A careful scrutiny of nearly all such patients will usually reveal other abnormal features; sometimes remote parts of the body are found unequally or at least asymmetrically developed. These deformities, therefore, could not result from any of the etiologic factors that apply only to local conditions, and some general law governing a tendency toward irregular cell-development must be active as the first factor in nearly every instance.

While adenoid vegetations are usually and apparently almost necessarily associated with mouth-breathing and with imperfectly developed nares, the fact which I have noted in former papers, namely, that in individuals with cleft palate, even in those with wide fissures throughout, one quite commonly finds masses of adenoids and much-enlarged tonsils, demonstrates that in such cases at least restriction of the nasal space did not cause the vegetations.

On the other hand, the effect of muscular action in mouth-breathing, thumb-sucking, and other factors of this character cannot be denied or ignored, any more than one could say that hard labor would not show its effect upon the shape of the hands, or that any organ or part of the body would not atrophy from disuse or become larger and stronger by exercise.

Malocclusion, of course, is an all-important factor, but malocclusion presupposes erupted teeth in order that there may be occlusion of any

kind whatever. Unless there were some earlier factors which disarrange the erupting tooth-crowns or crowd them out of place, there would be no malocclusion—that is, except in a comparatively limited class of cases.

The various operations suggested for the correction of intranasal deformities, such as the Asche operation, the so-called window operation as practised by Freer, Ballinger, and others, removal of spurs, etc., while frequently and successfully performed in skilful hands and giving a greater or smaller amount of relief, are nevertheless somewhat limited in their usefulness. There would seem to be no room for argument with regard to the statement that if the external walls of the nares can be moved apart, to the end that the breathing-space may be thus enlarged, and if this operation be accomplished by sufficiently harmless methods, the result would be very desirable and highly beneficial. Such operations I have performed for a number of years on patients that had been referred to me by rhinologists.

By the application of a force at once simple, direct, and effective, we are able to get a positive and prompt result. The appliance used consists of bands attached to the canines and molars on each side, and so joined that when a bar with screw and nut is attached across the palate in the bicuspid region, the force applied by turning the nut will cause pressure against all of the teeth upon each side of the dental arch. By the aid of pressure which is so gently applied that there is no pain and but little inconvenience for the patient, it is possible in all young persons to force the maxillaries apart by separating the median suture extending between the central incisor teeth and on through the central portion of the hard palate. This method is also practicable in older persons.

Evidence of this is given by the fact that the central incisors are moved apart without an attachment or a direct pressure of any kind being applied to these teeth.

So easily is this accomplished that members of the family usually turn the nut at home, and it frequently happens that I never see patients that live far away from my office from the time of insertion of the appliance until completion of the separation.

With such a separation of the maxillary bones the nasal processes, as might naturally be expected, and the nasal bones through their points of attachment, are moved, thus affording a direct and immediate increase of space within the nares.

With many dentists, particularly orthodontists, it is a common practice to enlarge the upper dental arch in the correction of dental irregularities, and much benefit to the nose as well as to the mouth is usually accomplished; but in all appliances commonly used by dentists the pressure is chiefly applied in such a way as to cause an osteoclast



absorption of surrounding bone. This has been clearly demonstrated by Dr. Talbot in his experiments upon dogs, upon whose teeth he placed regulating appliances. It was also proved by microscopic sections of jaws and teeth taken after pressure had been applied for a sufficient time. To get the best result, however, this is exactly what should not take place. By such immediate and direct pressure as is exerted by the appliances I use, through the marked resistance of the more rigid portions of the maxillary bones in the region of the malar processes, just the right contra force is applied to make the effect extend into the higher regions between the maxillaries. Direct proof of this can be given in many ways, as the following examples will show:

Dr. Brown cites some cases, all of which show a deviation of the nose from the central facial line—an imaginary though clinically very useful line to which I have previously called attention, and which runs through the center of the forehead, the tip of the nose, and the center of the chin. Deviation from this line in one way or another is a fairly certain indication of perverted nasal and maxillary growth, leading almost invariably to pathologic intranasal conditions.

Especially among growing children who have been treated by this method there has been a marked physical improvement, and an increase in weight has been the almost uniform result. Many of them had previously been unable to attend school regularly on account of the tendency to nasal, pharyngeal, and bronchial affections. Nervousness was almost invariably very greatly relieved. This is believed to be due to two reasons: (1) The breathing apparatus is improved along with the improvement in general health to be expected from better aeration and freedom from diseased nasal secretions; and (2) That condition to which Kiernan has called attention is removed, caused by the crowding together of the dental arches with a tendency to nerve irritation which quite frequently manifests itself not only in increased nervousness of a general character, but also in the development of neurotic tendencies leading to chorea, epilepsy, and other similar affections. These affections, in some instances at least, might probably have been averted if these patients could have been tided over the critical periods in their development. This has been recognized by Dr. Talbot, and the periods are named by him the periods of stress. It is certainly a curious fact that even with the disadvantage of having the appliance in their mouths and the bar across the palate, such children have a tendency to become less nervous, have an increased appetite, and show a general advance in development almost from the very first few days after the pressure has been exerted.

I cannot help feeling that this treatment can be made a very impor-

tant factor in safeguarding against tuberculosis. It is so easily accomplished, and the results are so greatly beneficial, that it should be applied to the hundreds and thousands of growing children who are unquestionably more susceptible to pneumonic and bronchial affections by reason of the difficulties under which they labor from an imperfect breathing apparatus. This treatment offers a possibility of relief that is specially important in view of the well-known increasing instances of deformities—arrested development in the maxillary region being more marked in each generation under the influence of conditions created by our so-called civilization. After all, the total sum of advanced treatment of tuberculosis may be expressed in a few words: more and better air, more and better food. Since hare-lip and cleft palate are merely different and more marked forms of oral, nasal, and labial deformity, it naturally follows that maxillary readjustment might be expected to yield valuable results also in these affections. Maxillary readjustment has thus become an essential part of the system of treatment which I follow, and large numbers of otherwise practically hopeless cases have been successfully corrected.—*Dental Cosmos*.

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## PROFESSIONAL PUBLICITY

BY ANDREW FLANAGAN, D.D.S., SPRINGFIELD, MASS.

FOR some twenty years I have been in the habit of jotting down ideas of my own and things that have attracted my attention as I have gone through the practice of dentistry, and I want to-night to give a brief résumé of some of these jottings.

### PUBLICITY

For some years I have thought that publicity in our profession is just as essential as publicity in many other things. Publicity can be well defined by saying it is a quality or state of being open to a community. A profession is a public declaration or an avowal of a calling which is completely and entirely opposed to what is considered of an ordinary nature. We have been deluding ourselves for some years with the idea that the question of the fakir and of the charlatan and of advertising an untruth is a thing of the present.

If you will look through the public press for fifty or seventy-five years past you will find that the fakir and advertiser existed long ago. In the City of Springfield, from which I come, as long ago as 1844 we had a man who advertised in the public press that he was making incor-



ruptible sets of teeth. He had flaming advertisements published in two of the local newspapers. In 1854 there was an unsuccessful daguerreotype artist there and he launched forth as a famous painless dentist, and advertised as such in the public prints, and his method was quite simple: To treat a carious tooth he applied arsenic for a few days and then filled it with amalgam.

In the early seventies in Boston, Mass., we had a man by the name of Dennett, who I imagine Dr. Stockton will remember, who launched out with a method known as "Naboli," and was so successful in advertising that people came from far and wide to Boston for painless dentistry. He was expelled from the Massachusetts society as a fakir, but made a fortune in a few years. Later he lost his money and died discredited, both professionally and financially.

We have heard a great deal on the subject of society education of the public; I believe people are best educated by the individual dentists. I have been astonished as I have talked with the various people connected with medicine, the law, the ministry and the public generally, to find what is the average opinion held in regard to dentistry. In what I say to-night I want you to remember that honest criticism is the test of true friendship, and if I say anything that does not please you, try to remember that it is intended as honest criticism.

I have found that the average person seeking dental service is impressed by the idea that the most costly and important thing is the material used. That is something tangible. The time and ability of the operator is seldom considered by those who seek our services or advice. As to the advice, the average man seems to think the dentist can give him none of any value, whereas if a physician gives his time and ability in the same manner its value is recognized. That is the wrong kind of publicity, and we collectively and individually are to blame for that condition to a great extent. The physician is entitled to a fee for a prescription, and why should not a dentist, if he gives of his time and advice, be entitled to a fee?

#### EXTRACTION OF TEETH

We have eighty millions of people in this country, and I understand there are from thirty to forty thousand dentists; yet apart from the extraction of teeth dentistry is decidedly a luxury to the majority of the people. If extraction does the most good for the greatest number of people it behooves us, from a professional standpoint, to have distinct knowledge concerning that ordinary thing known as extraction. I am connected with a hospital in my community and have been for some years, and I have been astonished to find people coming there not infre-

quently suffering from the effects of improper extraction. When the patient went to the dentist, the dentist did not take into consideration the condition of the man's mouth, nor what would happen after the extraction, nor did he take into consideration the fact that the extraction of teeth is just as much a surgical operation as many of the doings of very eminent surgeons. A surgeon would follow up an operation if he deemed it advisable and take care of the patient until healing had taken place, and the patient could be dismissed in a sound condition. The average dentist takes a tooth out for a mere pittance and dismisses the patient. If the patient meets with unfortunate results, does he go back to the dentist? No, he usually goes to a physician, because in the mind of the ordinary individual there is an idea that a dentist is not the man to treat a pathological condition, and, gentlemen, that is publicity we can do very well without.

#### DEAD TEETH

Another thing I wish to refer to is the fact that many dentists speak of a "dead tooth." If there is any one thing that has been left to us as an evil heritage in dentistry it is this erroneous term. "Dead" conveys to the average mind that it is a thing that cannot trouble any more, and no dentist should refer to a pulpless tooth, but should explain what it is, and that a so-called "nerve" is a "pulp," with circulation and nerve tissue. Let us cease using the word "dead tooth" and use the term "pulpless tooth" and let us teach our patients that the tooth is not without sustenance, not without life and not without sensibility. There is no one but the dentist himself to blame for the impression which the public has in this particular.

If there is one thing I desire to impress upon the mind of a patient, it is that the teeth are subject to the laws of health and disease just as any other part of the human body is, and why should not that be taught to the public? And that is another form of publicity that is going to help us.

Some patients are very anxious to find how long the result of an operation will continue, and it is just as well to tell such people in plain English that God Almighty did not make teeth that will last forever, nor can we. Some dentists make the mistake, in their enthusiasm over an operation of saying, "That will last indefinitely," and that is not a wise thing to say, because that operation may come back a failure before you realize it.

Another kind of publicity of the right sort is to impress upon the mind of the patient the length of time and the amount of trouble and expense connected with dental operations. Try to make them under-

stand that there is such a thing as specific disease in the mouth and that complete sterilization of our instruments is demanded and that all that takes time, and that often we must have the services of an assistant and possibly two assistants. When we have achieved that kind of publicity we have done something that will help us.

Sometimes dentistry is looked upon as a profession not of culture. Now, what is culture? Is not culture the taking of the ordinary in this life of ours and building it up to that which is more than the ordinary to make the very essence of that which is best in the world in all things?

#### NECESSITY FOR REAL NATIONAL ORGANIZATION

I propose now to leave the question of publicity through the individual dentist and take up the question as connected with societies. If you will inquire into what medicine has accomplished in that direction you will find that a few years ago the medical profession as a complete organization, had no existence, while to-day the American Medical Association is one of the greatest organizations of its kind in the world. Dentistry along the lines of publicity needs organization, and it needs organization into a national body. You have State societies that are doing good work and will always do good work, but if we had such a National organization as we should the question of the Army and Navy Dental Bill would not be where it is to-day. If you approach any body of legislators, you will find that they want to know what your membership is; what you represent; what is back of you; how many votes you have; and when you tell them that in the whole of this country you have a paltry six hundred men in your National organization, you are telling something which should better be suppressed—from the standpoint of publicity. That kind of publicity is doing more harm, in my humble opinion, than any other one thing. You are to blame for it, and I am to blame for it, and every man connected with the practice of dentistry is to blame for it; for we should have an organization of the National Dental Association along the line of the American Medical Society, and it is just as much the duty of the Jerseyites to see to that as it is of the Massachusettsites, and if the Jersey people will attend the National organization, if they will send a committee from their State organization to the meeting next year, telling what the Jerseyites will do, they will have accomplished something which will be as great along the lines of publicity as anything could be at the present time.

The question of this National organization is a peculiar one. It is peculiar in this way, that we have no organization in which we can get up a National agitation for anything. Is it not the duty of a National organization to promulgate views on the question of the care of the

teeth? Is it not the duty of that organization to father many things which have been neglected?

At the last meeting of the National Dental Association it did something which was one of the greatest things it ever did, and that was when Dr. Patterson presented the rules and regulations concerning the care of the teeth as fathered by that organization. Those rules and regulations can be had by any dentist, and he can give them to his patients fully satisfied that there is nothing unethical in his doing so.

The question of scientific work, dentistry in the public press, is not being overburdened with scientific investigation of the true investigator.

#### EDUCATION OF THE PUBLIC THROUGH THE PRESS

The public press is one of the greatest means for the education of the public concerning dentistry, but it must be handled correctly. A large part of the public press at the present time seems to be bent on sensationalism; anything that is immoral or off-color, or that will attract attention, will get into its columns, but the good that is in the world fails many times to get into print. Why? They do not spend their time in writing such things up. Every dental society should have a committee on the press appointed. This committee should have the ability to prepare a résumé of the meetings for the public press, and when matter is prepared this way you may rely upon it that it will be published and when it is done publicity will have been accomplished, and that is worth something. And that is one thing, it seems to me, which each society should immediately take up.

In Massachusetts a work has been started known as the Massachusetts Hygienic Council. It was begun with the idea that the time had arrived for a State organization to be formed which could impress on the public, in co-operation with the medical profession, the importance of the prevention of caries of the teeth. At the last meeting of the National in Boston we had an exhibit open to the public, and among other things models were shown as well as literature. In Massachusetts the dental profession is doing a great work along the lines of the prevention of tuberculosis. In various cities we have from time to time exhibits and we found the medical fraternity were only too happy to allow our exhibits to go in with theirs and to give us recognition. To-night, in the City of Fall River, there is to be a meeting with six speakers; I was to have been one of them myself, for I was invited, and if it were not for the fact that I promised last spring to come here to-night, I would be in Fall River now; but the dentists will be represented there by a man who can do far better than I, and he will give them an idea of what dentistry can do in the prevention of tuberculosis. That is the kind of

publicity that counts more than anything else that we have done in Massachusetts, and I trust and hope the various societies will take this up and co-operate with the medical profession and endeavor to inculcate in the minds of the people who come to these gatherings what dentistry is doing along the lines of prevention, for that is a matter which a very small proportion of the public at large know anything about—the fact that dentistry is studying prevention. That is the kind of publicity we must have in the future more than we have had in the past.

In my opinion, the dentist of the future will be a man who takes all beneficial things in all the professions, into dentistry, and uses them. That is the future that I see, nor do I believe that we will fail, because intelligent agitation when fought for by any organization of any great strength will accomplish wonders. Intelligent agitation will do almost anything, and I trust the time will come when all organizations will have these thoughts and these ideas concerning the advancement of dentistry come to them—come welling and surging in.—*Items of Interest.*

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## PHILANTHROPY, PUBLICITY, PROPHYLAXY

W. E. DRISCOLL, BRADENTOWN, FLA.

PHILANTHROPY ennobles its possessor first, and benefits those he can reach in addition. To be a philanthropist one must have or know something of value to his fellow-creatures; knowing a thing of value and not sharing it with his fellows is nothing short of treachery to humanity.

Do we, knowing the value of dental hygiene in all its breadth of meaning share our knowledge with our fellows, the people at large, as we should? I say no! Not by a hundredth part what we might do were we as philanthropic as we should be.

I do not doubt that the subject of dental education of the public is so hackneyed as to be often passed by when members of the profession are reading their professional periodicals. Yet, philanthropic duty requires that there be no shirking of responsibility from any such discouraging considerations as we meet. If I were to merely repeat what I have read hundreds of times in appeals for education of the people in their needs along these lines, I should feel it was folly to add another paper of like nature. For that reason I am going to offer something radical, or that which seems so to me, on the duty of dentists, especially to the rising generation, those innocents who should appeal to us, even if we have become, in a measure, indifferent to those so set in their habits as to be comparatively hopeless of any reform.

Not from egotism, but from a sense that years of conscientious study on any subject ought to bear some fruit, I will say that many years ago I made practical experiments of the plan I will now offer for your consideration.

Much has been said of examination of school children's teeth and other means of rescuing them from the results of ignorance and neglect, and no one recognizes its great importance more than I think I do. Let all be done on these lines possible. But while such work is being inaugurated, be it promptly or slowly attained, let me suggest a way for the one who wishes to strike while the iron is hot.

When you return home get as many of your neighbor practitioners to unite with you as you can, and prepare the briefest, plainest practicable treatise on the care of the teeth of all ages, but especially of children, making plain the time of the eruption of each pair of teeth. Let this be the basis of your teaching, so that intelligent parents may be rid of some of the ridiculous delusions they entertain on the subject. Let them know that lancing the gums at the right time is the simplest, surest remedy for the ills of teething. The necessity of taking the child to the dentist several times each year for examination and performing needed work at the all-important right time. Let them know there need be practically no toothache or crooked teeth if they follow this plan. That more than half the cost of dentistry for a family may be saved by the right thing being done at the right time. A very few words will suffice to show the importance of lime deposits being kept from the teeth and how to do it, of filling teeth while cavities are small, of the relative value of filling materials, crowns, bridges, plates, inlays, etc. Make it brief.

Now comes my radical suggestion. Get all your professional neighbors to join in the production and circulation of such a pamphlet if possible, but take less than all if necessary, and if no one will join you, go alone. In either case, show who is authority for the advice given, be it all the dentists of a community or part, or one only. Get the work into the hands of every family possible. I had to go alone in what I here advise for almost twenty years. Since being engaged in that work I have taken time enough to reflect on all its bearings, and to outgrow any prejudice incident to its active prosecution. The result is I now urge a trial of the plan as being the best we can adopt to meet an urgent need.

We know as no other body of men, the importance of early, faithful attention to children's teeth. That is prophylaxy. It can be attained only by teaching parents what they do not now properly realize as their duty. That is publicity. . . .



I do not wish to discourage any other plan of educating the public, which all agree is urgently needed, but we know how discouraging it is to wait on ordinary means of influencing people in general. I have proved the plan I suggest to be entirely practicable, and one any member of the profession can set it in operation just as soon as he can write and publish the literature needed, if he must go alone. If one cannot write, or does not know how to get what is needed, he should begin on himself in the work of enlightenment. In that case the public can wait.—*Dental Brief*.

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## THE ORAL MANIFESTATIONS OF SYPHILIS

BY LUCIUS W. JOHNSON, D.D.S., M.D.,

ASSISTANT SURGEON U. S. NAVY

WITH the single exception of tuberculosis, syphilis is the most widespread disease; it is limited to no age, sex, or race. Its sole claim to respectability lies in its great antiquity and prominence in history. The presence of syphilis was felt in Egypt in 3500 B.C., and it figures in the writings of Moses, Celsus, David, Hippocrates, Pliny, and Josephus. It was found in America by the sailors of Columbus. . . .

The important relation of the dentist to syphilis lies in the fact that frequently the first and sometimes the only manifestations are found in the mouth, where they may be observed by the dentist, though not noticed by the physician or suspected by the patient. The dentist, too, is an important factor in the treatment of the disease, and the first step in the treatment should be a thorough cleansing of the mouth; throughout the course of the treatment the dentist should cooperate with the physician by frequent inspection of the condition of the mouth and teeth. The ability to recognize syphilis is essential to the dentist in order that he may protect himself and his patients from infection; for there are no more violently contagious lesions than those appearing in the mouth, and none from which transmission of the active cause can take place in so many ways in the round of every-day life. The eating utensils, napkins, towels, cups, pipe, or the connubial kiss may be unsuspected means of conveyance of the disease. It must be borne in mind that syphilis is by no means always a venereal disease, but can be innocently conveyed by one who is careless or ignorant of the cause of his trouble by many means.

The first oral manifestation of syphilis which attracts our attention is the *chancre*, which appears most often on the lip, more rarely on the tongue or tonsil. On the lip it is placed usually at the muco-cutaneous



junction, where breaks of the skin surface due to cracks, herpes or burn from cigars are most common. A history of the exposure to the infection is rarely obtainable, and the diagnosis must be based upon the characteristics of the lesion itself. When it first appears, the chancre may be nowise different from an ordinary abrasion or fever blister, but any persistent ulcer not due to a known cause, which is indolent, not painful or destructive, shallow, and covered by a grayish pseudo-membrane, should be regarded with grave suspicion, and if it be followed in five to ten days by moderate, non-inflammatory swelling of the adjacent lymph glands, the diagnosis is practically absolute. Chancre located upon the lip may cause great swelling of the lip, so as to interfere with speech and eating.

Chancre on the tongue is more rare than on the lip, and is usually located at or near the tip and so modified in its characteristics by friction and the constant motion of the organ that the diagnosis is often most difficult. The glandular involvement following a chancre in this location appears first in the glands under the angle of the jaw.

Perhaps the most constant characteristic of chancre is the parchment-like induration noticed on rolling the tissue between the finger and the thumb, but even this is not always reliable, for it must be remembered that any simple sore may become indurated following cauterization with silver nitrate or strong acids.

A confusing differential diagnosis is that between epithelioma and chancre of the lower lip. The classical scheme of diagnosis is—

#### *Chancre*

Occurs at any age.

Painless.

Regular in outline.

Elevated edges and crater-like excavation.

Duration a few weeks.

Submaxillary glands involved in the second week.

Yields to mercurial treatment.

#### *Epithelioma*

Usually past middle life.

Frequently stabbing pain.

Irregular in outline.

Ragged and bleeding.

Duration months or years.

Glandular involvement late.

Not affected by mercury.

The chancre persists until the appearance of the lesions characteristic of the secondary stage, usually about three weeks after the chancre, though this period varies within wide limits. It is then a generalized blood disease, therefore we have usually an eruption distributed over the whole skin and mucous surface, with a tendency to be symmetrical. Some authorities claim that preceding the general eruption by several days there may be observed on the mucous membrane of the palate, palatal arches, and pharyngeal walls, a number of faint grayish-yellow lines marking the course of the small vessels and due to cellular proliferation about them, the surrounding mucous membrane being a brighter red than its normal color.

The characteristic mouth-lesion of the secondary stage is the *mucous patch*. This is similar to the hard papule of the skin surface, and is caused by excessive cellular proliferation about the small bloodvessels, which finally becomes so massive as to cut off the blood supply to the outer layer of cells; this layer dies and rubs off, leaving a moist surface which is grayish in color because of ischemia due to the choking-up of the blood channels. A hard papule in any part of the body which is exposed to similar conditions of heat, moisture, and friction will become a mucous patch.

This lesion is located usually on the mucous membrane of the inner surface or frenum of the lips or the angle of the mouth; but it may be on the tongue, buccal mucous membrane, palatal arches, or palate. In appearance it is not unlike the effect produced by touching the mucous membrane with a silver nitrate stick; it is only slightly indurated, grayish-white, irregular in shape, not elevated, and is painless unless irritated by a ragged tooth, or unless so situated, as in the faucial pillars, that it is constantly in motion during breathing and swallowing. It is found more frequently in men than in women, possibly because the women are more fastidious in the toilet of the mouth and less prone to use irritating substances, such as cigars, tobacco, or strong liquors.

This is the most dangerous lesion of syphilis, and must be remembered in order that it may be avoided. It is at present considered that the saliva and other physiological secretions do not transmit syphilis, but an unnoticed mucous patch may add its secretion to the saliva and thus make it a most dangerous carrier of infection.

It is customary for the physician to wait for the appearance of the secondary eruption before making a positive diagnosis of syphilis and beginning treatment. Immediately upon its appearance the patient is prepared for mercurial treatment, and this is usually the point at which the dentist first sees the case. Every patient who has a tooth or a part of a tooth, or who wears a plate, should be sent to the dentist before

mercurial treatment is started; the dentist should be notified as to the character of the case, so that he may do his work most intelligently and take all precautions to safeguard himself and his *clientèle* from any danger of infection.

The knowledge of the nature of his disease usually places the patient, especially if he is an educated or cultured person, in a pitiable state of mental depression, in which his thoughts often turn toward some desperate means to end a life of disease which he feels will be worse than death. He is a sick man mentally as well as physically, and must be given every possible encouragement. There is much to be said in his favor, for syphilis tends somewhat to be a self-limited disease, is not immediately fatal, but runs a long course; its sequelæ are serious, but there is fairly good assurance that they can be prevented by faithful adherence to the routine of treatment. On the other hand, the patient must not be led to think too lightly of the disease, but must be impressed with the fact that it may lead to the direst consequences for himself and others if he fails in his observance of the details of the treatment.

During my term of service as dental surgeon at the Philadelphia Hospital nearly every patient selected for mercurial treatment was sent to the dental department before treatment was commenced, in order that his mouth might be placed in the best possible condition. Later, while resident physician in the same hospital, every patient in my wards had his oral condition inspected carefully before and during his course of mercurial treatment. . . . The surprisingly small number in which salivation or stomatitis developed, and the facility with which these few were controlled, impressed me with the great importance of the condition of the mouth during the administration of this drug. The principle in the treatment of this disease is to get a large quantity of mercury into the system; the limit of administration of mercury is indicated by salivation and stomatitis, which may be alleviated or prevented by proper oral hygiene. Therefore, the better the mouth-conditions the more mercury we may give, and the better the patient's chances of recovery and of escape from the sequelæ of his disease.

When a syphilitic patient is referred to the dentist, the first step is to remove all roots, smooth off all sharp edges, remove calcic deposits, and any other possible causes of abrasions. If there are abrasions, they should be allowed to heal before treatment is begun. A paste or powder should be prescribed, and instructions given to brush the teeth thoroughly after each meal with a moderately stiff brush. A mouth-wash, mildly antiseptic and astringent, will be found of value. Personally I prefer the following:

R—Fluid extracti krameriae, ʒj;  
Tincturæ myrrhæ,  
Alcoholis,                   āā ʒiij. M.

*Sig.*—One-half teaspoonful in half-glass of water *p. r. n.*

Dr. Truman's prescription is also valuable:

R—Hydronaphthol,                   ʒss;  
Glycerini,  
Alcoholis,                   āā ad ʒiij;  
Olei gaultheriæ,                   mx. M.

*Sig.*—Twenty drops to a half-glass of water.

During the course of the treatment the patient must stop chewing or smoking tobacco and must avoid strong liquors and highly spiced foods or sauces. Our aim is to keep the mouth as clean and as resistive to infection as possible, so all such irritating substances must be avoided.

Should salivation or stomatitis develop in spite of our precautions or because of their neglect, the mercury should be stopped at once, and the mouth again examined for any source of irritation. The drugs of greatest value are hydrogen dioxid and chlorate of potash. A valuable mouth-wash consists of

R—Sodii boratis,  
Tincturæ myrrhæ,                   āā ʒij;  
Potasii chloratis,                   ʒj;  
Aquæ destillatæ,                   ad ʒxvj. M.

*Sig.*—Use as mouth-wash.

This is mildly antiseptic and astringent, and does away with the fetor of the breath. Hydrogen dioxid in three per cent. solution is valuable, often producing a quick change for the better when potassium chlorate seems inefficient. Ulceration should be cauterized with silver nitrate or an aqueous solution of chromic acid.

The administration of mercury should not be recommended until the mouth is once more in a healthy condition. Then the regimen should consist of frequent use of one of the milder washes first mentioned, and of careful attention to cleanliness after eating.

The *tertiary lesions* of syphilis may appear months or years after the primary and secondary lesions have disappeared; they are usually unilateral, and may occur in any kind of tissue or any part of the body. In the region of the mouth a gumma may affect the palate, alveoli, mandible, or soft tissue.

In the bone it begins as an osteoperiostitis with round-cell infiltration underneath the periosteum, which may organize and remain as a nodular thickening; but more often it softens, ulcerates, and leads to necrosis and perforation. The premonitory sign is a boggy or edematous mucous membrane of a dusky liver color, the center of which ulcerates and breaks down, producing a moderate amount of thick pus. When this appears first on the oral side of the palate, the process may sometimes be halted by the prompt administration of mercury and iodid in large quantity, but usually it goes on to necrosis of the bone. The soft tissues may melt away with astonishing rapidity, so that the bone is exposed within a couple of days after the discovery of the lesion. Occurring in the alveolus, the process runs a somewhat slower course; here we have first the dusky, boggy, liver-colored mucous membrane, followed by loosening of the teeth and denudation of the bone.

Syphilitic necrosis of the bones in this location is sometimes hard to differentiate from tubercular necrosis, especially in the not uncommon occurrence of tuberculosis and syphilis in the same person. Tuberculosis, however, is not prone to affect the bones of these parts unless it is very widespread; it is usually accompanied by more suppuration than syphilitic necrosis, and tends to involve the adjacent joint, and it is not improved by the administration of mercury.

Gumma of the soft palate is first indicated by sore throat and interference with speech and swallowing. Here again we have a boggy, dusky red mass which tends to ulcerate and perforate. Appearing in the tongue, a gumma may manifest itself as a diffuse glossitis with considerable thickening or as a circumscribed lesion, which may be single or multiple, superficial or deep.

The local treatment of necrosis consists of waiting and keeping the parts as clean as possible pending the formation of the line of demarcation and the loosening of the dead portion. Hydrogen dioxid is not to be recommended here, because it dissolves the new capillaries forming along the line of separation, and thus delays the process of sequestration. A mild antiseptic wash used hourly is better. Removal of the necrosed bone should not be attempted until the dead portion is entirely separated from the living bone; it should be removed with the least possible injury to the velvety layer of capillaries and new tissue which has formed between it and the healthy bone, and which is of the greatest importance in the nourishment and repair of the latter. Such pieces of bone can almost always be removed from within the mouth, an external incision rarely being necessary, no matter how large the portion of bone to be removed.

A perforation of the palate is often accompanied by destruction of

the bones of the nose and flattening of the bridge. This, together with the harsh nasal voice and the penetrating fetid odor, makes the diagnosis possible by any one of the three senses, and from a considerable distance.

The local treatment of gumma of these soft tissues consists in cleanliness alone, and hydrogen dioxid is here of considerable value in destroying the foul odor.

The alleviation of the discomforts arising from a perforated palate lies within the realm of prosthesis rather than that of surgery. The loss of tissue is usually considerable, and the soft parts are so bound down and contracted by scar tissue that they are not suitable for plastic operation. As the result of several failures followed by a number of successes I have concluded that the simplest appliance is the most satisfactory, and that the elaborate soft-rubber instruments which attempt to imitate the motions and functions of the soft palate are too intricate to be used by the majority of patients, or to be made by the majority of dentists. Nothing has given me better success than the ordinary hard-rubber plate, sometimes extending some distance back on the soft palate which enables the patient once more to speak with a human voice and to swallow without having food come out of the nose.

It may not be out of place to speak of the attitude of some dentists who refuse to treat this class of cases on the ground that they are exposing their other patients to infection. They should consider that the organism causing syphilis is not highly resistant to germicides or boiling, and that with simple precautions all danger may be avoided. Wear rubber gloves while at work on such cases, and when finished boil the gloves, napkins, and such instruments as will not be harmed by boiling, and soak the others in strong carbolic acid solution over night. These precautions are so easily taken that it must be on some other ground than that of solicitude for our patients that we refuse to help a class to whom the dentist's care is so essential, in order that they may regain and insure their health by antisyphilitic treatment.—*Dental Cosmos*.

### EDITORIAL CHANGES

WITH the new year the *Dentist's Magazine* introduces a new staff of editors.

Dr. H. E. Friesell, Dean of the Dental Department of the University of Pittsburgh, takes the folio of Operative Dentistry.

Dr. W. L. Fickes, who occupies the chair of Ceramics and Oral Hygiene in the University of Pittsburgh, takes the Humanitarian Department, which will be changed in heading to Department of General Practice.

The Prosthesis Department is to be conducted by Dr. E. E. Belford, Dean of the Western Reserve Dental School. Some of his work will be surprising and of entirely new theory.

The Department of Orthodontia will be headed by Dr. W. E. Newcomb, Professor of Orthodontia at the Western Reserve University.

## DIGESTS OF ARTICLES WE OUGHT ALL TO KNOW ABOUT

(THE five articles here digested are of value to every dentist. The first of them "Growing Old a Habit" is pertinent to every one. Every little while we meet people on whom the years sit lightly. Threescore and ten sets no limits to their activities or usefulness. We ascribe this to heredity, a vigorous stock, good habits, etc., and doubtless there is much in each of these. But always, in such people, we find the mind young, hopeful, buoyant. These people never dwell on their years or the things done and past; always they look to the things they are to complete to-morrow. And the young mind keeps the body sprightly. There are such men in dentistry. They live long; they accomplish much. Such a man was Dr. Jonathan Taft, who was mentally young at seventy-five. We need to cultivate this attitude of perennial mental youth. Dr. Marden here tells how.

"The Modern Moloch," by Dr. Woods Hutchinson, deals with the subject of diphtheria in a very instructive way. Those of us who have been long enough away from the dental college so that the instructions we received there are growing dim, need this information repeated to us. Here it is given entertainingly, so that we may read and enjoy even while we learn anew.

Dr. Solis-Cohen's article "Diphtheria Carriers" comes from a widely different source. It is interesting as confirming what the less technical article by Dr. Hutchinson affirms. Incidentally it tells us that patients coming from families which have been exposed to diphtheria will probably bring diphtheria bacilli on the person or in the mouth. We must exercise care that no fault of ours makes us carriers of the infection.

In "Alcohol and the Individual," by Dr. Henry Smith Williams, contained in this number, we have a subject of much importance. It is largely the duty of the dentist to have at hand reliable information on this all-important subject; this he will surely have after reading Dr. Williams' most able article.

"The Rat and His Board Bill" is surprising and informative. Few of us knew the case was so serious. It is easier now to understand their agencies in promoting epidemics. They loom up as real health factors. And as such we ought to know about them.—EDITOR.)

### GROWING OLD A HABIT

BY ORISON SWETT MARDEN

"THE face cannot betray the years until the mind has given its consent. The mind is the sculptor.

"We renew our bodies by renewing our thoughts; change our bodies, by changing our thoughts."

Not long ago the former secretary of a justice of the New York Supreme Court committed suicide on his seventieth birthday.



"The Statute of Limitations; a Brief Essay on the Osler Theory of Life," was found beside the dead body. It read, in part:

"Threescore and ten—this is the scriptural statute of limitations. After that, active work for man ceases; his time on earth has expired. . . .

"I am seventy—threescore and ten—and I am fit only for the chimney corner. . . ."

There is no doubt that the acceptance in a strictly literal sense of the biblical life limit has proved a decided injury to the race. It is well known that many people die very near the limit they set for themselves. Yet there is no probability that the Psalmist had any idea of setting a limit to the life period, or that he had any authority whatever for so doing.

. . . There is no evidence in the Scriptures that even suggests the existence of an age limit beyond which man was not supposed or allowed to pass. In fact, the whole spirit of the Bible is to encourage long life through sane and healthful living.

It would be a reflection upon the Creator to suggest that He would limit human life to less than three times the age at which it reaches maturity (about thirty) when all the analogy of nature, especially in the animal kingdom, points to at least five times the length of the maturing period. Infinite wisdom does not shake the fruit off the tree before it is ripe.

We do not half realize what slaves we are to our mental attitudes, what power our convictions have to influence our lives. . . .

Not long ago a New York man, in perfect health, told his family that he was certain he should die on his next birthday. On the morning of his birthday his family became alarmed because he refused to go to work, saying that he should certainly die before midnight, and insisted upon calling in the family physician, who examined him and said there was nothing the matter with him. But the man refused to eat, grew weaker and weaker during the day, and actually died before midnight. The conviction that he was going to die had become so entrenched in his mind that the whole power of his mentality acted to cut off the life force, and finally to strangle completely the life processes.

Now, if this man's conviction could have been changed by some one who had sufficient influence over him, or if the mental suggestion that he was going to live to a good old age had been implanted in his mind in place of the death idea, he would probably have lived many years longer.

If you have convinced yourself, or if the idea has been ingrained

into the very structure of your being by your training or the multitudes of examples about you, that you will begin to show the marks of age at about fifty, that at sixty you will become practically useless and have to retire from your business, and that thereafter you will continue to decline until you are cut off entirely, there is no power in the world that can keep the old-age processes and signs from developing in you.

Thought leads. If it is an old-age thought, old age must follow. If it is a youthful thought, a perennial young-life thought, a thought of usefulness and hopefulness, the body must correspond. *Old age begins in the mind.* The expression of age in the body is the harvest of old-age ideas which have been planted in the mind. We see others of our age beginning to decline and show marks of decrepitude, and we imagine it is about time for us to show the same signs. Ultimately we do show them, because we think they are inevitable. But they are only inevitable because of our old-age mental attitude.

If we actually refuse to grow old; if we insist on holding the youthful ideal and the young, hopeful, buoyant thought, the old-age ear-marks will not show themselves.

*The elixir of youth lies in the mind or nowhere. . . .*

If we can only establish the perpetual youth mental attitude, so that we feel young, we have won half the battle against old age. Be sure of this: that whatever you feel regarding your age will be expressed in your body.

Nothing in the world will make us look young as long as we are convinced that we are aging.

Nothing else more effectually retards age than keeping in mind the bright, cheerful, optimistic, hopeful, buoyant picture of youth in all its splendor, magnificence; the alluring picture of the glories which belong to youth—youthful dreams, ideals, hopes, and all the qualities which belong to young life.

One great trouble with us is that our imaginations age prematurely. The hard, exacting conditions of our modern, strenuous life tend to harden and dry up the brain and nerve cells, and thus seriously injure the power of the imagination, which should be kept fresh, buoyant, elastic.

The arbitrary, domineering, overbearing mind also tends to age the body prematurely, because the thinking is hard, strained, abnormal.

Another reason why so many people age prematurely is because they cease to grow. It is a lamentable fact that multitudes of men seem incapable of receiving or accepting new ideas after they have reached middle age. Never allow yourself to get out of the habit of being young. Do not say that you cannot do this or that as you once did.

Do not be afraid of being a boy or a girl again in spirit, no matter how many years you have lived. Carry yourself so that you will not suggest old age. Remember it is the stale mind, the stale mentality, that ages the body. Keep growing; keep interested in everything about you. . . .

The mind that is not constantly reaching out for the new soon reaches its limit of growth, and ages rapidly.

Dr. Metchnikoff, of the Pasteur Institute in Paris, says that men should live at least one hundred and twenty years.

A few years ago the London *Lancet*, the highest medical authority in the world, gave a splendid illustration of the power of the mind to keep the body young. A young woman, deserted by her lover, became insane. She lost all consciousness of the passing of time. She believed her lover would return, and for years she stood daily before her window watching for him. When over seventy years of age, some Americans, including physicians, who saw her, thought she was not over twenty. She did not have a single gray hair, and no wrinkles or other signs of age were visible. Her skin was as fair and smooth as a young girl's. She did not age because she believed she was still a girl. She did not count her birthdays or worry because she was getting along in years. She was thoroughly convinced that she was still living in the very time that her lover left her. This mental belief controlled her physical condition. *She was just as old as she thought she was.* Her conviction outpictured itself in her body and kept it youthful. . . .

As long as you hold the conviction that you are sixty, you will look it. Your thought will outpicture itself in your face, in your whole appearance. The body is the bulletin-board which shows what is going on in the mind.

Nothing helps more to the perpetuation of youth than much association with the young.

A man quite advanced in years was asked not long ago how he retained such a youthful appearance in spite of his age. He said that he had been the principal of a high school for over thirty years; that he loved to enter into the life and sports of the young people and to be one of them in their ambitions and interests. This, he said, had kept his mind centered on youth, progress, and abounding life, and the old-age thought had had no room for entrance.

There must be a constant activity in the mind that would not age. "Keep growing or die" is nature's motto, a motto written all over everything in the universe.

Never go to sleep with the old-age picture or thought in your mind. It is of the utmost importance to make yourself feel young at night;

to erase all signs, convictions, and feeling of age; to throw aside every care and worry that would carve its image on your brain and express itself in your face. The worrying mind actually generates calcareous matter in the brain and hardens the cells.

When you first wake in the morning, especially if you have reached middle life or later, picture the youthful qualities as vividly as possible. Say to yourself, "I am young, always young—strong—buoyant. I cannot grow old and decrepit, because in the truth of my being I am divine, and Divine Principle cannot age."

The great thing is to make the mind create the youth pattern instead of the old-age pattern. As a sculptor follows the model which he holds in the mind, so the life processes reproduce the pattern which is in our thought, our conviction.

We must get rid of the idea, embedded in our very nature, that, the longer we live, the more experiences we have, the more work we do, the more inevitably we wear out and become old and decrepit, and useless.

Nature has bestowed upon us perpetual youth through perpetual renewal. There is not a single cell in our bodies that can possibly become old. Physiologists tell us that the tissue cells of some muscles are renewed every few days or weeks. The cells of the bone tissues are slower of renewal, but some authorities estimate that eighty or ninety per cent. of all the cells in the body of a person of ordinary activity are entirely renewed in from six to twelve months.

*It is marvelous how quickly old-age thoughts can make new cells appear old.*

All discordant and antagonistic thought materially interferes with the laws of reconstruction and self-renewal going on in the body, and the great thing is, therefore, to form thought habits which will harmonize with this law of rejuvenation—perpetual renewal. We are so constituted that we must be good to be happy, and happiness spells youthfulness. . . .

There is a power of health latent in every cell of the body which would always keep the cell in harmony and preserve its integrity if the thought were right. This latent power of health in the cell can be so developed by right thinking and living as to retard very materially the aging processes.

One of the most effective means of developing it is to keep cheerful and optimistic. As long as the mind faces the sun of life it will cast no shadow before it. . . .

Constantly say to yourself, "If Nature makes me a comparatively new body every few months, if the billions of tissue cells are being perpetually renewed, if the oldest of these cells are, perhaps, rarely, if

ever, more than two years old, why should they appear to be sixty or seventy-five?" If the body is always young, it should always look young, and it would if we did not make it look old by stamping old age upon it. We Americans seem very adept in putting the old-age stamp upon new tissue cells.

If you would keep young, you must learn the secret of self-rejuvenation, self-refreshment, self-renewal, in your thought, in your work, in your youthful interests. Hard thoughts, too serious thoughts, mental confusion, excitement, worry, anxiety, jealousy, the indulgence of all explosive passions, tend to harden the cells, dry up the tissues, and shorten the life.

You will find a wonderful, rejuvenating power in the cultivation of faith in *the immortal principle of health in every atom of your being*. We are all conscious that there is something in us which is never sick and which never dies, *something which connects us with the Divine*. There is a wonderful healing influence in holding the consciousness of this great truth. . . .

Never allow yourself to think of yourself as growing old. Never harbor the old-age thought. Constantly affirm, if you feel yourself aging, "I am young because I am perpetually being renewed; my life comes new every moment from the Infinite Source of life. I am new every morning and fresh every evening because I live, move, and have my being in Him who is the Source of all life." Not only affirm this mentally, but verbally when you can. Make this picture of perpetual renewal, this constant refreshment and rejuvenation, so vivid, that you will feel the thrill of youthful renewal through your entire system. Under no circumstances allow the old-age thought or suggestion to remain in the mind. Remember that *it is what you feel, what you are convinced of, that will be outpictured in your body*. If you think you are aging, if you walk, talk, dress, and act like an old person, this condition will be outpictured in your expression, face, manner, and body.

Youthful thought should be a fixed life habit.

Cling to the idea that the truth of your being can never age, because it is Divine Principle.

The youth-thought habit will drive out the old-age thought habit. If you can only *feel* your whole body being perpetually made over, constantly renewed, you will keep the body young, fresh.

There is a tremendous youth-retaining power in holding high ideals and lofty sentiments. The spirit cannot grow old while one is constantly aspiring to something better, higher, nobler. *It is senility of the soul that makes people old*.

Live always in a happy mental attitude. Live in the ideal, and the

aging processes cannot get hold of you. It is the youthful ideal that keeps one young. When we think of age, we think of weakness, decrepitude, imperfection; we do not think of wholeness, vigor. Every time you think of yourself make a vivid mental picture of your *ideal* self as the very picture of youth, of health and vigor, of wholeness. *Think health.* Feel the spirit of youth and hope surging through your body.

The elixir of youth which alchemists sought so long in chemicals, we find is in ourselves. The secret is in our own mentality. Perpetual rejuvenation is possible only by right thinking. We look as old as we think and feel.

Beauty is also a great rejuvenator. Let us incorporate it into our lives by seeing beautiful things, thinking beautiful thoughts, building beautiful ideals, and picturing beautiful things in our imagination.

I know of no remedy for old-age conditions so powerful as love—love of life, love for our work, love for our fellowmen, love for everything.

It is the most powerful life-renewer, refreshener, recreator, healer, known. Love awakens the noblest sentiments, the finest sensibilities, the most exquisite qualities in man. It is the most refining influence known.

Harmony, peace, poise, and serenity are absolutely necessary to perpetuate youthful conditions. All discord, all unbalanced, excited, confused mental operations, tend to produce aging conditions. The contemplation of the *eternal verities* enriches the ideals and freshens life because it destroys fear, uncertainty, and worry by adding assurance and certainty to life.

Increasing power and wisdom ought to be the only sign of our long continuance on this earth. We ought to do our best work after fifty, or even after sixty or seventy, and if the brain is kept active, fresh, and young, and the brain cells are not ruined by too serious a life, by worry, fear, selfishness, a hot temper, or disease, the mind will constantly increase in vigor and power.

If we are convinced that the life processes can perpetuate youth instead of age, they will obey the command.

An all-wise and benevolent Creator could not make us with such a great yearning for long life, a longing to remain young, without any possibility of realizing it. The very fact of this universal protest in all human beings against the enormous disproportion between the magnitude of our mission upon earth and the shortness of the time and the meagerness of the opportunities for carrying it out, the universal yearning for longevity, and all analogy in the animal kingdom, all point



to the fact that man was not only intended for a much longer life, but also for a much greater freedom from the present old-age weaknesses, decrepitude, and other handicaps.

There is not the slightest indication in the marvelous mechanism of man that he was intended to become weak, crippled, and useless after a comparatively few years. Instead, all the indications are toward progress into a larger, completer, fuller manhood, greater power. A dwarfed, weak, useless man was never in the Creator's plan. Retrogression is contrary to all principle and law. Progress, perpetual enlargement, growth, are the truth of man. The Creator never made anything for retrogression. "Onward and upward" is written upon every atom in the universe. Imagine the Creator fashioning a man in His own likeness for only a few years of activity and growth, and then—retrogression, crippled helplessness! *There is nothing of God in this picture.* Whatever the Deity makes bears the stamp of perpetual progress, everlasting growth. There is no going backward in His plans, everything moves forward to one eternal divine purpose. If human beings could only once grasp this idea, that *the reality of them is divine*, immortal, that divinity does not go backward or grow old, they would lose all sense of fear and worry, all enemies of their progress and happiness would slink away, and the aging process would cease.

*The coming man will not grow old. Perpetual youth is his destiny.*  
—*Success Magazine.*

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## THE MODERN MOLOCH

BY WOODS HUTCHINSON, A.M., M.D.

THAT was a dark and stern saying, "Without the shedding of blood there is no remission," and, like all the words of the oracles, of limited application. But it proves true in some unexpected places outside of the realm of theology. Was there something prophetic in the legend that it was only by the sprinkling of the blood of the paschal lamb above the doorway that the plague of the first-born could be stayed? To-day the guinea-pig is our burnt-offering against a plague as deadly as any sent into Egypt.

Scarcely more than a decade ago as the mother sat by the cradle of her first-born, musing over his future, one moment fearfully reckoning the gauntlet of risks that his tiny life had to run, and the next building rosy air-castles of his happiness and success, there was one shadow that ever fell black and sinister across his tiny horoscope. Cer-



tain risks there were which were almost inevitable—initiation ceremonies into life, mild expiations to be paid to the gods of the modern underworld, the diseases of infancy and of childhood. Most of these could be passed over with little more than a temporary wrinkle to break her smile. They were so trivial, so comparatively harmless—measles, a mere reddening of the eyelids and peppering of the throat, with a headache and purplish rash, dangerous only if neglected; chicken-pox, a child's-play at disease; scarlatina, a little more serious, but still with the chances of twenty to one in favor of recovery; diphtheria—ah! that drove the smile from her face and the blood from her lips. Not quite so common, not so inevitable as a prospect, but, as a possibility, full of terror, once its poison had passed the gates of the body fortress. The fight between the Angel of Life and the Angel of Death was waged on almost equal terms, with none daring to say which would be the victor, and none able to lift a hand with any certainty to aid.

#### THE HAVOC OF DIPHTHERIA

Nor was the doctor in much happier plight. Even when the life at stake was not one of his own loved ones—though from the deadly contagiousness of the disease it, sadly, often was (I have known more doctors made childless by diphtheria than by any other single disease except tuberculosis)—he faced his cases by the hundred instead of by twos and threes. The feeling of helplessness, the sense of foreboding with which we faced every case was something appalling. Few of us who have been in practice twenty years or more, or even fifteen, will ever forget the shock of dismay which ran through us whenever a case to which we had been summoned revealed itself to be diphtheria. Of course, there was a fighting chance, and we made the most of it, for in the milder epidemics only ten to twenty per cent. of the patients died; and, even in the severest, a third of them recovered. But what “turned our liver to water”—as the graphic Oriental phrase has it—was the knowledge which, like Banquo's ghost, would not down, that while many cases would recover of themselves, and in many border-line ones our skill would turn the balance in favor of recovery, yet if the disease happened to take a certain sadly-familiar, virulent form we could do little more to stay its fatal course than we could to stop an avalanche, and we never knew when a particular epidemic or a particular case would take that turn. “Black” diphtheria was as deadly as the Black Death of the Middle Ages.

Unlike the other diseases of childhood, also, one attack confers no positive immunity for the future, although it greatly diminishes the

probabilities; and, further, while adults do not readily or frequently catch the disease, yet when they do the results are apt to be exceedingly serious. Indeed, we have practically come to the conclusion that one of the main reasons why adults do not so frequently develop diphtheria as children is that they are not brought into such close and intimate contact with other children, nor are they in the habit of promptly and indiscriminately hugging and kissing every one who happens to attract their transient affection, and have outgrown that cheerful spirit of comradeship which leads to the sharing of candy in alternate sucks, and the passing on of slate-pencils, chewing-gum and other *objets d'art* from hand to hand, and from mouth to mouth. Statistics show that of nurses employed in diphtheria wards, before the cause or the exact method of contagion was clearly understood, nearly thirty per cent. developed the disease; and even with every modern precaution there are few diseases which doctors more frequently catch from the cases they are in charge of than diphtheria. It is a significant fact that the risk of developing diphtheria is greatest precisely at the ages when there is not the slightest scruple about putting everything that may be picked up into the mouth, namely, from the second to the fifth year, and diminishes steadily as habits of cleanliness and caution in this regard are developed, even though no immunity may have been gained by a mild or slight attack of the disease. The tendency to discourage and forbid the indiscriminate kissing of children, and the crusade against the uses of the mouth as a pencil-holder, pincushion and general receptacle for odds and ends, would be thoroughly justified by the risks from diphtheria alone—to say nothing of tuberculosis and other infections.

In addition to being almost the only common disease of childhood which is not mild and becoming milder, diphtheria is unique in another respect, and that is its point of attack. Just as tuberculosis seizes its victims by the lungs, and typhoid fever by the bowels, diphtheria—like the weasel—grips at the throat. Its bacilli, entering through the mouth and gaining a foothold first upon the tonsils, the palate or back of the throat (pharynx), multiply and spread until they swarm down into the larynx and windpipe, where their millions, swarming in the mesh of fibrin poured out by the outraged blood-vessels, grow into the deadly false membrane which fills the air tube and slowly strangles its victim to death.

The horrors of a death like that can never fade from the memory of one who has once seen it, and will outweigh the lives of a thousand guinea-pigs. No wonder there was such a widespread and peculiar horror of the disease, as of some ghostly thug or strangler.

## LISTENING FOR THE CROUPY COUGH

But not all of the dread of diphtheria went under its own name. Most of us can still remember when the commonest occupant of the nursery shelf was the bottle of ipecac or soothing-syrup as a specific against croup. The thing that most often kept the mother or nurse of young children awake and listening through the night-watches was the sound of a cough and the anxious waiting to hear whether the next explosion had a "croupy" or brassy sound. It was, of course, early recognized that there were two kinds of croup: the so-called "spasmodic" and the "membranous," the former comparatively common and correspondingly harmless, the latter one of the deadliest of known diseases. The fear that made the mother's heart leap into her mouth as she heard the ringing croup cough was lest it might be membranous, or, if spasmodic, might turn into the deadly form later. To-day most young mothers hardly know the name of wine of ipecac or alum, and the coughs of young children awaken little more terror than a similar sound in an adult. Croup has almost ceased to be one of the bogies of the nursery. And why? Because membranous croup has been discovered to be diphtheria, and children will not develop diphtheria unless they have been exposed to the contagion, while, if they should, we have a remedy against it.

He was a bold man who first ventured to announce this, and for years the battle raged hotly. It was early admitted that certain cases of so-called membranous croup in children occurred after or while other members of the family or household had diphtheria; and for a time the opposing camps used such words as "sporadic" or scattered croup, which was supposed to come of itself, and "epidemic" or contagious croup, which was diphtheria. Now, however, these distinctions are swept away, and boards of health require isolation and quarantine against croup exactly as against any other form of diphtheria.

Cases of fatal croup still occasionally occur which cannot be directly traced to other cases of diphtheria, but the vast majority of them are clearly traceable to infection, usually from some case in another child, which was so mild that it was not recognized as diphtheria until the baby became "croupy" and search was made through the family throats for the bacilli.

## THE MOST PRICELESS WEAPON OF THE CENTURY

For years we were in doubt as to the cause of diphtheria. Half a dozen different theories were advanced: bad sewerage, foul air, overcrowding; but it was not until shortly after the Columbus-like dis-

covery, by Robert Koch, of the new continent of bacteriology that the germ which caused it was arrested, tried and found guilty, and our real knowledge of and control over the disease began. This was in 1883, when the bacteriologist Klebs discovered the organism, followed a few months later (in 1884) by Löffler, who made valuable additions to our knowledge of it; so that it has ever since been known as the Klebs-Löffler bacillus. This put us upon solid ground and our progress was both sure and rapid; in ten years our knowledge of the causation, the method of spread, the mode of assault upon the body fortress, and last, but not least, the cure, stood out clear-cut as a die, a model and a prophecy of what may be hoped for in most other contagious diseases.

By a stern necessity of fate, which no one regrets more keenly than the laboratory workers themselves, the guinea-pig has had to be used as a stepping-stone for every inch of this progress. Upon it were conducted every one of the experiments whose result widened our knowledge, until we found that this bacillus and no other would cause diphtheria; that instead of getting, like many other disease germs, into the blood, it chiefly limited itself to growing and multiplying upon a comparatively small patch of the body surface, most commonly of the throat; that most of its serious and fatal results upon the body were produced, not by the entrance of the germs themselves into the blood, but by the absorption of the toxins or poisons produced by them on the moist surface of the throat, just as the yeast will produce alcohol in grape juice or sweet cider.

Here was a most important clew. It was not necessary to fight the germs themselves in every part of the body, but merely to introduce some ferment or chemical substance which would have the power of neutralizing their poison. Instantly attention was turned in this direction, and it was quickly found that if a guinea-pig were injected with a very small dose of the diphtheria toxin and allowed to recover he would then be able to throw off a still larger dose until finally, after a number of weeks, he could be given a dose which would have promptly killed him in the beginning of the experiments, but which he now readily resisted and recovered from. Evidently some substance was produced in his blood which was a natural antidote for the toxin, and a little further search quickly resulted in the discovery and filtering out of his body of the now famous antitoxin. A dose of this injected into another guinea-pig suffering from diphtheria would promptly save its life.

Could this antitoxin be obtained in sufficient amounts to protect the body of a human being? The guinea-pig was so tiny and the process of antitoxin-forming so slow that we naturally turned to larger

animals as a possible source, and here it was quickly found that of these the goat and the horse not only would develop this antidote substance very quickly and in large amounts, but that a certain amount of it, or a substance acting as an antitoxin, was present in their blood to begin with. Of the two, the horse was found to give both the stronger antitoxin and the larger amounts of it, so that he is now exclusively used for its production.

After his resisting power has been raised to the highest possible pitch by successive injections of increasing doses of the toxin, and his serum (the water part of the blood which contains the healing body) had been used hundreds and hundreds of times to save the lives of diphtheria-stricken guinea-pigs, and had been shown over and over again not merely magically curative but absolutely harmless, it was tried with fear and trembling upon a gasping, struggling, suffocating child, as a last possible resort to save a life otherwise hopelessly doomed. Who could tell whether the "heal-serum," as the Germans call it, would act in a human being as it had upon all the other animals? In agonies of suspense, vibrating between hope and dread, doctors and parents hung over the couch. What was their delight, within a few hours, to see the muscles of the little one begin to relax, the fatal blueness of its lips to diminish, and its breathing become easier. In a few hours more the color had returned to the ashen face and it was breathing quietly. Then it began to cough and to bring up pieces of the loosened membrane that had been strangling it. Another dose was eagerly injected, and within twenty-four hours the child was sleeping peacefully—out of danger. And the most priceless and marvelous life-saving weapon of the century had been placed in the hand of the physician.

#### THE IMPORTANCE OF PROMPTNESS AND COURAGE

Of course there were many disappointments and failures in the earlier cases. Our first antitoxins were too weak and too variable. We were afraid to use them in sufficient doses. Often their injection would not be consented to until the case had become hopeless. But courage and industry have conquered these difficulties one after another, until now the fact that the prompt and intelligent use of antitoxin will effect a cure of from ninety to ninety-five per cent. of all cases of diphtheria is as thoroughly established as any other fact in medicine. The mass of figures from all parts of the world in support of its value has become so overwhelming that it is neither possible nor necessary to specify them in detail. The series of Bayeaux, covering two hundred and thirty thousand cases of diphtheria, chiefly from hos-

pitals and hence of the severest type, showing that the death rate had been reduced from over *fifty-five* per cent. to below *sixteen* per cent. already, and that this decrease was still continuing, will serve as a fair sample. Three-quarters of even this sixteen per cent. mortality is due to delay in the administration of the antitoxin, as is vividly shown in thousands of cases now on record, classified according to the day of the disease on which the antitoxin was given, of which MacCombie's Report of the London Asylums Board is a fair type. Of one hundred and eighty-seven cases treated the first day of the disease, none died; of eleven hundred and eighty-six injected on the second day of the disease, four and a half per cent. died; of twelve hundred and thirty-three not treated until the third day of the disease, eleven per cent. died; of nine hundred and sixty-three cases escaping treatment until the fourth day, seventeen per cent. died; while of twelve hundred and sixty not seen until the fifth day, twenty per cent. died. In other words, the chances for cure by the antitoxin are in precise proportion to the earliness with which it is administered, and are over four times as great during the first two days of the disease as they are after the fourth day. One "stick" in time saves five.

#### WHERE THE BACTERIOLOGIST COMES IN

This brings us sharply to the fact that the most important factor in the cure of diphtheria, just as in the case of tuberculosis, is early recognition. How can this be secured? Here again the bacteriologist comes to our relief, and we needed his aid badly. The symptoms of a mild case of diphtheria for the first two or even three days are very much like those of an ordinary sore throat. As a rule, even the well-known membrane does not appear in sufficient amounts to be recognizable by the naked eye until the middle of the second or sometimes even of the third day. By any ordinary means, then, of diagnosis we would often be in doubt as to whether a case were diphtheria or not, until it was both well advanced and had had time to infect other members of the family. With the help of the laboratory, however, we have a prompt, positive and simple method of deciding at the very earliest stage. We merely take a sterilized swab of cotton on the end of a wire, rub it gently over the surface of the throat and tonsils, restore it to its glass tube, smearing it gently over the surface of some solidified blood-serum placed at the bottom of the tube, close the tube and send it to the nearest laboratory. The culture is put into an incubator at body heat, the germs sown upon the surface of the blood-serum grow and multiply, and in twelve hours a positive diagnosis can be made by examining this growth with a microscope. Often, just smearing the



mucus swabbed out of the throat over the surface of a glass slide, staining this smear, and putting it under a microscope will enable us to decide within an hour. These tubes are now provided by all progressive city boards of health, and can be had free of charge at depots scattered all over the city for use in any doubtful case, within half an hour. Twelve hours later a free report can be had from the public laboratory. If every case of suspicious sore throat in a child were promptly swabbed out and a smear from the swab examined at a laboratory, it would not be long before diphtheria would be practically exterminated (as smallpox has been by vaccination), and this is what we are working toward and looking forward to.

Our knowledge of the precise cause of diphtheria, the Klebs-Löffler bacillus, has furnished us not only with the cure, but also with the means of preventing its spread. While under certain circumstances, particularly the presence of moisture and the absence of light, this germ may live and remain virulent for weeks outside of the body, careful study of its behavior under all sorts of conditions has revealed the consoling fact that its vitality outside of the human or some other living animal body is low; so that it is relatively seldom carried from one case to another by articles of clothing, books or toys, and comparatively seldom even through a third party, except where the latter has come into very close contact with the disease, like a doctor, a nurse or a mother, or—without disrespect to the preceding—a pet cat or dog.

More than this, the bacillus must chiefly be transmitted in the moist condition and does not float in the air at all, clinging only to such objects as may have become smeared with the mucus from the child's throat, as by being coughed or sneezed upon. As with most of our germ enemies, sunlight is its deadliest foe, and it will not live more than two or three days exposed to sunshine. So the principal danger against which we must be on our guard is that of direct personal contact, as in kissing, in the use of spoons or cups in common, in the interchange of candy or pencils, or through having the hands or clothing sprayed by a cough or a sneeze.

The bacillus comparatively seldom even gets on the floor or walls of a room where reasonable precautions against coughing and spitting have been taken; but it is, of course, advisable to thoroughly disinfect and sterilize the room of a patient and all its contents with corrosive sublimate and formalin, as a number of cases are on record in which the disease has been carried through books and articles of clothing which had been kept in damp, dark places for several months. The chief method of spread is through unrecognized mild cases of the disease, especially of the nasal form. For this reason boards of health



now always insist upon smears being made from the throats and noses of every other child in the family or house where a case of diphtheria is recognized. No small percentages of these are found to be suffering from a mild form of the disease, so slight as to cause them little inconvenience and no interference with their attending school. Unfortunately, a case caught from one of these mild forms may develop into the severest laryngeal type. If a child is running freely at the nose, keep it at home or keep your own child away from it. A profuse nasal discharge is generally infectious, of influenza or other "colds," if not diphtheria.

This also emphasizes the necessity for a thorough and expert medical inspection of school-children, to prevent these mild cases from spreading disease and death to their fellows. By an intelligent combination of the two methods, home examination of every infected family and strict school inspection, there is little difficulty in stamping out promptly a beginning infection, before it has had time to reach the proportions of an epidemic.

One other step makes assurance doubly sure, and that is the prompt injection of all other children and young adults living in the family where there is a case of diphtheria with small doses of the antitoxin for preventive purposes. Its value in this respect has been only secondary to its use as a cure. There are now thousands of cases on record of children who had been exposed to diphtheria or were in hospitals where they were in danger of becoming exposed to it, with the delightful result that only a very small per cent. of those so protected developed the disease, and of these not a single one died! This protective vaccination, however, cannot be used on a large scale, as in the case of smallpox, for the reason that the period of protection is a comparatively short one, probably not exceeding two or three weeks.

Supposing that, in spite of all our precautions, the disease has gained a foothold in the throat, what will be its course? This will depend, first of all, upon whether the invading germs have lodged in their commonest point of attack, the tonsils, palate and upper throat, or have penetrated down the air passages into the larynx or voice organ. In the former, which is far the commoner case, their presence will cause an irritation of the surface cells which brings out the leucocyte cavalry of the body to the defense, together with squads of the serum or watery fluid of the blood containing fibrin. These, together with the surface cells, are rapidly coagulated and killed by the deadly toxin; and their remains form a coating upon the surface, which at first is scarcely perceptible, a thin, grayish film, but which in the course of twenty-four to forty-eight hours rapidly thickens to the well-

known and dreaded false membrane. Before, however, it has thickened in more than occasional spots or patches, the toxin has begun to penetrate into the blood, and the little patient will complain of headache, feverishness and backache, often—indeed, usually—before any very marked soreness in the throat is complained of. Roughly speaking, attacks of sore throat, which begin first of all with well-marked soreness and pain in the throat, followed later by headache, backache and fever, are not very likely to be diphtheria. The bacilli multiply and increase in their deadly mat on the surface of the throat, larger and larger amounts of poison are poured into the blood, the temperature goes up, the headache increases, the child often begins to vomit, and becomes seriously ill. The glands of the neck, in their efforts to arrest and neutralize the poison, become swollen and sore to the touch, the breath becomes foul from the breaking down of the membrane in the throat, the pulse becomes rapid and weak from the effect of the poison upon the heart, and the dreaded picture of the disease rapidly develops.

This process in from sixty to eighty per cent. of cases will continue for from three to seven days, when a check will come and the condition will gradually improve. This is a sign that the defensive tissues of the body have succeeded in rallying their forces against the attack, and have poured out sufficient amounts of the natural antitoxin to neutralize the poisons poured in by the invaders. The membrane begins to break down and peel off the throat, the temperature goes down, the headache disappears, the swelling of the glands of the neck may either subside or go on to suppuration and rupture, but within another week the child is fairly on the way to recovery.

Should the invaders however, have secured a foothold in the larynx, then the picture is sadly different. The child may have even less headache, temperature and general sense of illness; but he begins to cough, and the cough has a ringing, brassy sound. Within forty-eight, or even twenty-four, hours he begins to have difficulty in respiration. This rapidly increases as the delicate tissues of the larynx swell under the attack of the poison, and the very membrane which is created in an attempt at defense becomes the body's own undoing by increasing the blocking of the air passages. The difficulty of breathing becomes greater and greater, until the little victim tosses continually from side to side in one constant, agonizing struggle for breath. After a time, however, the accumulation of carbon dioxide in the blood produces its merciful narcotic effect, and the struggles cease. The breathing becomes shallower and shallower, the lips become first blue, then ashy pale, and the little torch of life goes out with a flicker. This was what we had to expect, in spite of our utmost effort, in from seventy to ninety

per cent. of these laryngeal cases, before the days of the blessed antitoxin. Now we actually reverse these percentages, prevent the vast majority of cases from developing serious laryngeal symptoms at all, and save from seventy to eighty per cent. of those who do.

Our only resource in this form of the disease used to be by mechanical or surgical means, opening the windpipe below the level of the obstruction and inserting a curved silver tube—the so-called tracheotomy operation; or later, and less heroic, by pushing forcibly down into the larynx and through and past the obstruction at the vocal cords a small metal tube through which the child could manage to breathe. This was known as intubation. But these were both distressing and painful methods, and, what was far worse, pitifully broken reeds to depend upon. In spite of the utmost skill of our surgeons, from fifty to eighty per cent. of cases that were tracheotomized, and from forty to sixty per cent. of those that were intubated, died. In many cases they were enabled to breathe, their attacks of suffocation were relieved—but still they died.

This leads us to the most important single fact about the course of the disease, and that is that the chief source of danger is not so much from direct suffocation as from general collapse, and particularly failure of the heart.

This has given us two other data of great importance and value, namely, that while the immediate and greatest peril is over when the membrane has become loosened and the temperature begun to subside, in both ordinary throat and in laryngeal forms of the disease, the patient is by no means out of danger. While the antitoxins poured out by his body have completely defeated the invading toxins in the open field of the blood, yet almost every tissue of the body is still saturated with these latter and has often been seriously damaged by them before their course was checked. For instance, nearly two-thirds of our diphtheria cases which are properly examined will show albumin in the urine, showing that the kidney cells have been attacked and poisoned by the toxin. This may go on to a fatal attack of uremia; but fortunately not commonly, far less so than in scarlet fever. The kidneys usually recover completely, but this may take weeks and months. Again, many cases of diphtheria will show a weak and rapid pulse which will persist for weeks after the patient has apparently recovered; and if the little ones are allowed to sit up too soon, or to indulge in any sudden movements or muscular strains, this weak and rapid pulse will suddenly change into an attack of heart failure and, possibly, fatal collapse. This, again, illustrates the saturation of the poison, as these effects are now known to be due in part to a direct poisoning of the muscle of the

heart itself, and later to serious damage done to the nerves controlling the heart, chiefly the pneumogastric. Moral: Keep the little patient in bed for at least two weeks, or, better, three. He will have to spend a month or more in quarantine, anyway.

Last of all, and by no means least interesting, are the effects which are produced upon the nervous system. One day while the child is recovering, and is possibly beginning to sit up in bed, a glass of milk is handed to him. The little one drinks it eagerly and attempts to swallow, but suddenly it chokes, half strangles, and back comes the milk, pouring out through the nostrils. Paralysis of the soft palate has occurred from poisoning of the nerves controlling it, caused by direct penetration of the toxin. Sometimes the external muscles of the eye become paralyzed and the little one can no longer see to read.

Fortunately, most of these alarming results go only to a certain degree; and then gradually fade away and disappear; but this may take months or even longer. In a certain number, however, the nerves of respiration or those controlling the heartbeat become affected, and the patient dies suddenly from heart failure.

This strange after-effect upon the nervous system, which was first clearly noticed in diphtheria and one other disease, has now been found to occur in lesser degree in a large number of our infectious diseases, so that many of our most serious paralyses and other diseases of the nervous system are now traceable to such causes.

These effects of the diphtheria toxin are also of interest for a somewhat unexpected reason, since it has been claimed that they are effects of the antitoxin by those who are opposed to its use. Every one of them was well recognized as a possible result of diphtheria long before the antitoxin was discovered, and every one of them can be readily produced by injections of diphtheria bacilli or their toxin into animals.

It is quite possibly true that there are more cases of nerve-poisoning (neuritis) and of paralysis following diphtheria than there were before the use of antitoxin, but that is for the simple and sufficient reason that there are more children left alive to display them! And between a child with a temporary squint and a dead child few mothers would hesitate long in their choice.—*Saturday Evening Post*.

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### DIPHTHERIA "CARRIERS"

DR. MYER SOLIS-COHEN, writing in the *Journal of the American Medical Association*, January 9, 1908, shows a view-point regarding diphtheria which is of great importance to dentists. It is that persons

allowed to come close to or in contact with the infected persons, may become diphtheria "carriers" to others. Under these conditions "the carrier" takes the germs into his own mouth and throat; he may remain healthy or may develop diphtheria, but whether or no he sickens himself, and is in excellent position to impart the affection to others.

Dr. Solis-Cohen reports examinations of families and schools, with rather startling results. During the past four years he has discovered diphtheria germs in the throats of a large number of healthy persons who had been in contact with those suffering from clinical diphtheria—these persons were found in orphanages and homes, in public schools and in private dwellings.

The healthy inmates of several homes for children were examined bacteriologically during nine different outbreaks of diphtheria. The percentage found in infected districts varied from 50 to none, the average for the nine epidemics being 9.14 per cent. Altogether 269 individuals were examined, of whom 35 (13 per cent.) harbored the germs. Children suffering from sore throat were examined on four occasions, the greatest number tested at one time being eight and the smallest four. The percentage harboring diphtheria bacilli, regarded as latent diphtheria, varied from 100 per cent. to 33.3 per cent.; the average being 62.5 per cent. Of the 22 examined altogether, 12 (55 per cent.) had latent diphtheria.

In eleven private dwellings, where one of the family was sick with diphtheria, the healthy inmates were cultered, eight to one being tested at a time. The percentage infected was 100 per cent. in three instances and zero in one, the average of the eleven being 57.3 per cent. The total number examined was 40, of which 55 per cent. were infected. In four of these houses persons with sore throat were similarly investigated, the number in each house not exceeding four and in one instance being as small as one. From 66.6 per cent. to 100 per cent. of cases of latent diphtheria were discovered, the average being 91.6 per cent.; of 10 examined the report was positive in 90 per cent.

In a block where typical and latent diphtheria had occurred, three children suffering from sore throat were examined, two proving to have latent diphtheria. Twenty-three school children who had come in contact in the class-room with a convalescent from latent diphtheria and a child who had subsequently developed disease, who themselves exhibited reddened fauces or enlarged tonsils, were examined bacteriologically, but only one was found infected. As an infected "contact" may later develop diphtheria, either latent or typical; even though he may remain healthy, he is capable of transmitting virulent bacilli to others, who may then develop clinical diphtheria in a mild or severe form, or, remaining

healthy, may themselves act as diphtheria "carriers." Dr. Solis-Cohen believes that the latent and "carrier" cases are mostly responsible for the prevalence of diphtheria in cities. He thinks, too, that the public health officials would be justified in demanding that inmates of an institution, ward or private dwelling which contains a patient with diphtheria, be examined bacteriologically, and, if found infected, be isolated until the bacilli disappear.

Dr. Solis-Cohen comes to the following conclusions: 1. Persons coming in contact with a diphtheria patient frequently have virulent Klebs-Löffler bacilli deposited on their mucous membranes. 2. Such infected "contacts" may later develop diphtheria or, remaining healthy, may act as diphtheria "carriers," transmitting the bacilli to others, who thereupon may develop the disease or may themselves become diphtheria "carriers." 3. To prevent their becoming a source of danger to others, diphtheria "carriers" should be isolated until bacteriologically clean. 4. Recognition of the infected "contacts" must precede their control. This can be brought about only by taking cultures of the throats of all the inmates of a house where diphtheria exists. 5. Little progress need be expected in the prophylaxis of diphtheria so long as we neglect the animate carriers of the contagion.—*Journal of the American Medical Association*.

## ALCOHOL AND THE INDIVIDUAL

BY HENRY SMITH WILLIAMS, M.D., LL.D.

SOME very puzzling differences of opinion about the use of alcoholic beverages find expression. This is natural enough, since alcohol is a very curious drug, and the human organism a very complex mechanism. The effects of this drug upon this mechanism are often very mystifying. Not many persons are competent to analyze these effects in their totality. Still fewer can examine any of them quite without prejudice. But in recent years a large number of scientific investigators have attempted to substitute knowledge for guesswork as to the effects of alcohol, through the institution of definitive experiments. Some have tested its effects on the digestive apparatus; others, its power over the heart and voluntary muscles; still others, its influence upon the brain. On the whole, the results of these experiments are singularly consistent. Undoubtedly they tend to upset a good many time-honored preconceptions. But they give better grounds for judgment as to what is the rational attitude toward alcohol than have hitherto been available.

The traditional rôle of alcohol is that of a stimulant. It has been



supposed to stimulate digestion and assimilation; to stimulate the heart's action; to stimulate muscular activity and strength; to stimulate the mind. The new evidence seems to show that, in the final analysis, alcohol stimulates none of these activities; that its final effect is everywhere depressive and inhibitory (at any rate, as regards higher functions) rather than stimulative; that, in short, it is properly to be classed with the anesthetics and narcotics. The grounds for this view should be of interest to every citizen, considering that more than one thousand million gallons of alcoholic beverages are consumed in the United States each year. . . .

I shall attempt to describe some of the more significant observations and experiments in sufficient detail to enable the reader to draw his own conclusions. To make room for this, I must deal with other portions of the testimony in a very summary manner. As regards digestion, for example, I must be content to note that the experiments show that alcohol does indeed stimulate the flow of digestive fluids, but that it also tends to interfere with their normal action; so that ordinarily one effect neutralizes the other. As regards the action on the heart, I shall merely state that the ultimate effect of alcohol is to depress, in large doses to paralyze, that organ. These, after all, are matters that concern the physician rather than the general reader.

The effect of alcohol on muscular activity has a larger measure of popular interest; indeed, it is a question of the utmost practicality. The experiments show that alcohol does not increase the capacity to do muscular work, but distinctly decreases it. Doubtless this seems at variance with many a man's observation of himself; but the explanation is found in the fact that alcohol blurs the judgment. As Voit remarks, it gives, not strength, but, at most, the feeling of strength. A man may think he is working faster and better under the influence of alcohol than he would otherwise do; but rigidly conducted experiments do not confirm this opinion. . . .

It is even questionable whether the energy derived from the oxidation of alcohol in the body can be directly used at all as a source of muscular energy. Such competent observers as Schumberg and Scheffer independently reached the conclusion that it cannot. Dr. Abel inclines to the same opinion. He suggests that "alcohol is not a food in the sense in which fats and carbohydrates are food; it should be defined as an easily oxidizable drug with numerous untoward effects which inevitably appear when a certain minimum dose is exceeded." He thinks that alcohol should be classed "with the more or less dangerous stimulants and narcotics, such as hashish, tobacco, etc., rather than with truly sustaining foodstuffs." Some of the grounds for this view



will appear presently, as we now turn to examine the alleged stimulating effects of alcohol upon the mental processes.

#### ALCOHOL AS A BRAIN STIMULANT

The celebrated physicist Von Helmholtz, one of the foremost thinkers of the nineteenth century, declared that the very smallest quantity of alcohol served effectively, while its influence lasted, to banish from his mind all possibility of creative effort, all capacity to solve an abstruse problem. The result of recent experiments in the field of physiological psychology convince one that the same thing is true in some measure of every other mind capable of creative thinking. Certainly all the evidence goes to show that no mind is capable of its best efforts when influenced by even small quantities of alcohol.

The experimental evidence that tends to establish the position of alcohol as an inhibitor and disturber rather than a promoter of mental activity has been gathered largely by German investigators. Many of their experiments are of a rather technical character, aiming to test the basal operations of the mind. Others, however, are eminently practical, as we shall see. The earliest experiments, made by Exner in Vienna so long ago as 1873, aimed to determine the effect of alcohol upon the so-called reaction-time. The subject of the experiment sits at a table, with his finger upon a telegraph key. At a given signal—say a flash of light—he releases the key. The time that elapses between signal and response—measured electrically in fractions of a second—is called the simple or direct reaction-time. This varies for different individuals, but is relatively constant, under given conditions, for the same individual. Exner found, however, that when an individual had imbibed a small quantity of alcohol, his reaction-time was lengthened, though the subject believed himself to be responding more promptly than before. . . .

Subsequent experiments tested mental processes of a somewhat more complicated character. For example, the subject would place each hand on a telegraph key, at right and left. The signals would then be varied, it being understood that one key or the other would be pressed promptly accordingly as a red or a white light appeared. It became necessary, therefore, to recognize the color of the light, and to recall which hand was to be moved at that particular signal: in other words, to make a choice not unlike that which a locomotive engineer is required to make when he encounters an unexpected signal light. The tests showed that after the ingestion of a small quantity of alcohol—say a glass of beer—there was a marked disturbance of the mental processes involved in this reaction. On the average, the keys were released more rapidly

than before the alcohol was taken, but the wrong key was much more frequently released than under normal circumstances. Speed was attained at the cost of correct judgment. Thus, as Dr. Stier remarks, the experiment shows the elements of two of the most significant and persistent effects of alcohol, namely, the vitiating of mental processes and the increased tendency to hasty or incoördinate movements.

Equally suggestive are the results of some experiments devised to test the effects of alcohol upon the perception and comprehension of printed symbols. The subject was required to read aloud a continuous series of letters or meaningless syllables or short words, as viewed through a small slit in a revolving cylinder. It was found that after taking a small quantity of alcohol, the subject was noticeably less able to read correctly. His capacity to repeat, after a short interval, a number of letters correctly read, was also much impaired. He made more omissions than before, and tended to substitute words and syllables for those actually seen. It is especially noteworthy that the largest number of mistakes were made in the reading of meaningless syllables—that is to say, in the part of the task calling for the highest or most complicated type of mental activity.

#### THE EFFECT OF A BOTTLE OF WINE A DAY

When a single dose of alcohol is administered, its effects gradually disappear, as a matter of course. But they are far more persistent than might be supposed. Some experiments conducted by Fürer are illuminative as to this. He tested a person for several days, at a given hour, as to reaction-time, the association of ideas, the capacity to memorize, and facility in adding. The subject was then allowed to drink two liters of beer in the course of a day. No intoxicating effects whatever were to be discovered by ordinary methods. The psychological tests, however, showed marked disturbance of all the reactions, a diminished capacity to memorize, decreased facility in adding, etc., not merely on the day when the alcohol was taken, but on succeeding days as well. Not until the third day was there a gradual restoration to complete normality; although the subject himself—and this should be particularly noted—felt absolutely fresh and free from after-effects of alcohol on the day following that on which the beer was taken.

Similarly Rüdin found the effects of a single dose of alcohol to persist, as regards some forms of mental disturbance, for twelve hours, for other forms twenty-four hours, and for yet others thirty-six and more. But Rüdin's experiments bring out another aspect of the subject, which no one who considers the alcohol question in any of its phases should overlook: the fact, namely, that individuals differ greatly

in their response to a given quantity of the drug. Thus, of four healthy young students who formed the subjects of Rüdlin's experiment, two showed very marked disturbance of the mental functions for more than forty-eight hours, whereas the third was influenced for a shorter time, and the fourth was scarcely affected at all. The student who was least affected was not, as might be supposed, one who had been accustomed to take alcohols habitually, but, on the contrary, one who for six years had been a total abstainer.

Noting thus that the effects of a single dose of alcohol may persist for two or three days, one is led to inquire what the result will be if the dose is repeated day after day. Will there then be a cumulative effect, or will the system become tolerant of the drug and hence unresponsive? Kürz and Kraepelin estimate that after giving eighty grams per day to an individual for twelve successive days, the working capacity of that individual's mind was lessened by from twenty-five to forty per cent. Smith found an impairment of the power to add, after twelve days, amounting to forty per cent.; the power to memorize was reduced by about seventy per cent.

Forty to eighty grams of alcohol, the amounts used in producing these astounding results, is no more than the quantity contained in one to two liters of beer or in a half-bottle to a bottle of ordinary wine. Professor Aschaffenburg, commenting on these experiments, points the obvious moral that the so-called moderate drinker, who consumes his bottle of wine as a matter of course each day with his dinner—and who doubtless would declare that he is never under the influence of liquor—is in reality never actually sober from one week's end to another. Neither in bodily nor in mental activity is he ever up to what should be his normal level.

That this fair inference from laboratory experiments may be demonstrated in a thoroughly practical field, has been shown by Professor Aschaffenburg himself, through a series of tests made on four professional typesetters. The tests were made with all the rigor of the psychological laboratory (the experimenter is a former pupil of Kraepelin), but they were conducted in a printing office, where the subjects worked at their ordinary desks, and in precisely the ordinary way, except that the copy from which the type was set was always printed, to secure perfect uniformity. The author summarizes the results of the experiment as follows:

#### A LOSS OF TEN PER CENT. IN WORKING EFFICIENCY

"The experiment extended over four days. The first and third days were observed as normal days, no alcohol being given. On the

second and fourth days each worker received thirty-five grams (a little more than one ounce) of alcohol, in the form of Greek wine. A comparison of the results of work on normal and on alcoholic days showed, in the case of one of the workers, no difference. But the remaining three showed greater or less retardation of work, amounting in the most pronounced case to almost fourteen per cent. As typesetting is paid for by measure, such a worker would actually earn ten per cent. less on days when he consumed even this small quantity of alcohol."

In the light of such observations, a glass of beer or even the cheapest bottle of wine is seen to be an expensive luxury. To forfeit ten per cent. of one's working efficiency is no trifling matter in these days of strenuous competition. The subjects of the experiment were all men habituated to the use of liquor, one of them being accustomed to take four glasses of beer each week day, and eight or ten on Sundays. This heaviest drinker was the one whose work was most influenced in the experiment just related. The one whose work was least influenced was the only one of the four who did not habitually drink beer every day; and he drank regularly on Sundays. All abstained from beer during the experiment. We may note, further, that all the men admitted that they habitually found it more difficult to work on Mondays, after the over-indulgence of Sunday, than on other days, and that they made more mistakes on that day. Aside from that, however, the men were by no means disposed to admit, before the experiment, that their habitual use of beer interfered with their work. That it really did so could not well be doubted after the experiment. . . .

#### IS ALCOHOL A POISON?

Students of pathology answer this question with no uncertain voice. The matter is presented in a nutshell by the Professor of Pathology at Johns Hopkins University, Dr. William H. Welch, when he says: "Alcohol in sufficient quantities is a poison to all living organisms, both animal and vegetable." To that unequivocal pronouncement there is, I believe, no dissenting voice, except that a word-quibble was at one time raised over the claim that alcohol in exceedingly small doses might be harmless. The obvious answer is that the same thing is true of any and every poison whatsoever. Arsenic and strychnine, in appropriate doses, are recognized by all physicians as admirable tonics; but no one argues in consequence that they are not virulent poisons.

Open any work on the practice of medicine quite at random, and whether you chance to read of diseased stomach or heart or blood-vessels or liver or kidneys or muscles or connective tissues or nerves or brain—it is all one: in any case you will learn that alcohol may be an

active factor in the causation, and a retarding factor in the cure, of some, at least, of the important diseases of the organ or set of organs about which you are reading. You will rise with the conviction that alcohol is not merely a poison, but the most subtle, the most far-reaching, and, judged by its ultimate effects, incomparably the most virulent of all poisons.

#### ALCOHOL AND DISEASE

Dr. Sims Woodhead, Professor of Pathology in the University of Cambridge, says of the effect of alcohol on the heart: "In addition to the fatty degeneration of the heart that is so frequently met with in chronic alcoholics, there appears in some cases to be an increase of fibrous tissue between the muscle fibers, accompanied by wasting of these tissues. . . . Heart failure, one of the most frequent causes of death in people of adult and advanced years, is often due to fatty degeneration, and a patient who suffers from alcoholic degeneration necessarily runs a much greater risk of heart failure during the course of acute fevers or from overwork, exhaustion, and an overloaded stomach, and the like, than does the man with a strong, healthy heart unaffected by alcohol or similar poisons." . . .

Dr. Woodhead has this to say about the blood-vessels: "In chronic alcoholism in which the poison is acting continuously, over a long period, a peculiar fibrous condition of the vessels is met with. The wall of the vessel may become thickened throughout its whole extent or irregularly, and the muscular coat may waste away as a new fibrous or scar-like tissue is formed. The wasting muscles may undergo fatty degeneration, and, in these, lime salts may be deposited; the rigid, brittle, so-called pipe-stem vessels are the result." Referring to these degenerated arteries, Dr. Welch says: "In this way alcoholic excess may stand in a causative relation to cerebral disorders, such as apoplexy and paralysis, and also the diseases of the heart and kidneys."

Professor Woodhead states that this calcification of the blood-vessels is likely to occur in persons who have taken only "what they are pleased to call 'moderate' quantities of alcohol." Similarly, Dr. Welch declares that "alcoholic diseases are certainly not limited to persons recognized as drunkards. Instances have been recorded in increasing number in recent years of the occurrence of diseases of the circulatory, renal, and nervous systems, reasonably or positively attributable to the use of alcoholic liquors, in persons who never became really intoxicated and were regarded by themselves and by others as 'moderate drinkers.'"

Strumpell declares that chronic inflammation of the stomach and

bowels is almost exclusively of alcoholic origin; and that when a man in the prime of life dies of certain chronic kidney affections, one may safely infer that he has been a lover of beer and other alcoholic drinks. Similarly, cirrhosis of the liver is universally recognized as being, nine times in ten, of alcoholic origin.

#### HOW THE POISON WORKS

There is an ever-present tendency to destroy the higher form of cells—those that are directly concerned with the vital processes—and to replace them with useless or harmful connective tissue. "Whether this scar tissue formation goes on in the heart, in the kidneys, in the liver, in the blood-vessels, or in the nerves," says Woodhead, "the process is essentially the same, and it must be associated with the accumulation of poisonous or waste products in the lymph spaces through which the nutrient fluids pass to the tissues. The contracting scar tissue of a wound has its exact homologue in the contracting scar tissue that is met with in the liver, in the kidney, and in the brain."

It is not altogether pleasant to think that one's bodily tissues—from the brain to the remotest nerve fibril, from the heart to the minutest arteriole—may perhaps be undergoing day by day such changes as these. Yet that is the possibility which every habitual drinker of alcoholic beverages—"moderate drinker" though he be—must face. This is an added toll that does not appear in the first price of the glass of beer or bottle of wine, but it is a toll that may refuse to be overlooked in the final accounting.

#### ALCOHOL AND ACUTE INFECTIONS

Deléarde, working in Calmette's laboratory in Lille, reports the case of an intemperate man, bitten by a mad dog, who died notwithstanding anti-rabic treatment, whereas a boy of thirteen, much more severely bitten by the same dog on the same day, recovered under treatment. Deléarde strongly advises any one bitten by a mad dog to abstain from alcohol, not only during the anti-rabic treatment but for some months thereafter, lest the alcohol counteract the effects of the protective serum. . . . McLeod and Milles say that Europeans in Shanghai who used alcohol showed increased susceptibility to Asiatic cholera, and suffered from a more virulent type of the disease. Professor Woodhead points out that many of the foremost authorities now concede the justice of this view, and unreservedly condemn the giving of alcohol, even in medicinal doses, to patients suffering from cholera or from various other acute diseases and intoxications, including diphtheria, tetanus, snake-bite, and pneumonia, as being not merely useless



but positively harmful. Even when the patient has advanced far toward recovery from an acute infectious disease, it is held still to be highly unwise to administer alcohol, since this may interfere with the beneficent action of the antitoxins that have developed in the tissues of the body, and in virtue of which the disease has been overcome.

#### THE ALLY OF TUBERCULOSIS

Equally potent, seemingly, is alcohol in complicating that other ever-menacing lung disease, tuberculosis. Dr. Crothers long ago asserted that inebriety and tuberculosis are practically interconvertible conditions; a view that may be interpreted in the words of Dr. Dickinson's Baillie Lecture: "We may conclude that alcohol promotes tubercle, not because it begets the bacilli, but because it impairs the tissues, and makes them ready to yield to the attacks of the parasites." Dr. Brouardel, at the Congress for the Study of Tuberculosis, in London, was equally emphatic as to the influence of alcohol in preparing the way for tuberculosis, and increasing its virulence; and this view has now become general—curiously reversing the popular impression, once held by the medical profession as well, that alcohol is antagonistic to consumption.

Pneumonia and tuberculosis combined account for one-fifth of all deaths in the United States, year by year. In the light of what has just been shown, it would appear that alcohol here has a hand in the carrying off of other untold thousands with whose untimely demise its name is not officially associated. I may add that certain German authorities, including, for example, Dr. Liebe, present evidence—not as yet demonstrative—to show that cancer must also be added to the list of diseases to which alcohol predisposes the organism.

#### HEREDITARY EFFECTS OF ALCOHOL

If additional evidence of the all-pervading influence of alcohol is required, it may be found in the thought-compelling fact that the effects are not limited to the individual who imbibes the alcohol, but may be passed on to his descendants. The offspring of alcoholics show impaired vitality of the most deep-seated character. Sometimes this impaired vitality is manifested in the non-viability of the offspring; sometimes in deformity; very frequently in neuroses, which may take the severe forms of chorea, infantile convulsions, epilepsy, or idiocy.

In the Craig Colony for Epileptics, at Sonyea, New York, the superintendent, Dr. Spratling, reports a history of alcoholism in the parents of 313 out of 950 recent cases. More than 22 per cent. of these unfortunates are thus suffering from the mistakes of their parents.—*McClure's Magazine*.



## THE RAT AND HIS BOARD BILL

BY MICHAEL WILLIAMS

IN the United States, England, and Germany, the rat annually damages property to the extent of \$310,000,000. The rat bill of the world, the cost to the world of lodging and feeding all sorts of rats and mice, would reach into the billions. Also this unpleasant pest is one of the most effective agencies known in conveying disease germs.

In San Francisco, as well as in the Orient and in Central and South America, the fight against bubonic plague has narrowed down into a fight against the rat which spreads it.

The world has to-day no need that is much greater than the discovery, and the universal application, of an effectual and speedy method for ridding civilization of its property-destroying, and disease-propagating plague—the rat. The present pernicious activities and the future menace of the rat constitute problems that are really grave. To the solving of these problems scientists and statesmen, business men and physicians are everywhere applying themselves. A veritable world-wide war on rats is under way, and perhaps the most important campaign is being waged in the United States.

\$160,000,000 A YEAR FOR RATS

The bill of damages which civilization holds against the rodent foots up into tremendous figures. According to the experts of the Bureau of Biological Survey of our Department of Agriculture, Uncle Sam alone has to pay \$160,000,000 every year on account of property damages inflicted by the pest. John Bull and the Kaiser between them have to fork over \$150,000,000. The rat bill of the world would reach into the billions. Sir James Crichton-Browne, president of a recently formed international union of scientific organizations working together for the extermination of



rats, declares that every rat in the United States costs the citizens at least two cents a day for its keep.

#### THE MOST DESTRUCTIVE OF THE MAMMAL PESTS

David E. Lantz, of the Bureau of Biological Survey, an expert on the rat problem, declares that the brown, or Norway, rat, sometimes termed the sewer rat (which is the mischievous member of the tribes of *Mus*—his zoölogical name being *Mus norvegicus*), does more damage than all other mammal pests in this country. . . .



The brown rat's fecundity is immense. Mr. Lantz tells us that it breeds three or four times yearly, with six to twelve, or even more, little brownies at a time. The female begins to breed when only three to four months old. Dr. A. Calmette, a prominent French scientist who is a leader in the international crusade against the brown horde from Norway, states that an average pair of sewer rats will within two years, ordinarily, multiply to over fifteen hundred. . . .

But Dr. Calmette hastens to add what we all know to be true—that, of course, now that the civilized nations are awakening to the necessity of engaging in a general and coöperative war on the rodents, it cannot be long before means of destroying them will be found. . . .

In the indictment of the rat by civilization, the first accusation is the property damage it inflicts.

#### WHAT HE COSTS THE FARMER

Look first at the item of Mr. Rat's board bill. He is omnivorous and eternally hungry; his squeak is like unto the cry of Oliver Twist, for "More! More! More!" He feeds upon all kinds of animal and vegetable matter. When the farmer sows his grain, the rat begins to eat the seed in the ground—but that is a mere appetizer, like the epicure's olive or radish before dinner. He makes, as it were, a salad of the green stalks as soon as they begin to appear; and then he goes right on and eats the grain in the ear and in the shock; in the stack, the mow, and the crib; he follows it on to the granary, the mill, the elevator, and the railway car, and descends into the holds of the grain-

carrying ships and barges. He also eats enormous quantities of vegetables, and is luxurious in the matter of fruits, and constant in his attentions to more substantial dishes like meats in stock-yards, markets, butcher-shops, and kitchens, topping off his meal with spices, condiments, and so forth by way of relish.

#### THE SUN NEVER SETS ON THE NORWAY RAT

In the West Indies, the Azores, and in the Cape Verde Islands, the sewer rat has appeared and is annually destroying hundreds of thousands of dollars' worth of coffee, banana, and orange plantations. Perfectly at home in sea water, and a strong swimmer, the migratory Norwegian rat is spreading everywhere among the continents and islands of the world. As an example of what he can do, Dr. Calmette cites the case of an island in the river Humber which was once covered with rich grass, supporting in good condition all the year around more than three thousand head of cattle, the people who cared for the stock, and the owners who lived by it. This island is separated from the shore by half a mile of water; but one day about fifteen years ago rats reached it by swimming, and to-day there is not enough verdure on that island to go between the front teeth of a rabbit, while the earth has been so riddled and honeycombed by the rodents that it cannot be reclaimed by cultivation. . . .

#### HAVOC IN A DEPARTMENT STORE

Turning now to another item in the national rat bill, let us gather a notion of what it costs us to lodge the pest. Enormous as is the financial value of the amount actually eaten by the rat, it is estimated as a mere tenth of what he destroys by pollution. He attacks foundations and walls and floors, and the rugs on the floors, and the books in the case against the wall, and the clothing in the cupboard. He



floods houses by nibbling through the lead of the water-pipes; he even burns buildings down by nibbling matches or electric-light-wire insulation.

#### THEY ARE INDUSTRIOUS GERM CARRIERS

The case of modern science against the rodent as an international peril is regarded as proved.

The indictment falls into three main sections. First of all, your rat is one of the liveliest and most indefatigable of the germ carriers. Secondly, and more specifically, the rat is the means by which that terrible disease, trichinosis, reaches man by transmission to the pig, through whose flesh it reaches us. And when the deadly parasites are received into the system of man or animal, science has no means of arresting their death-dealing effects.

#### HOW RATS HELP ALONG THE PLAGUE

The third point in the indictment is by far the gravest: that through the vermin which infest all rats the seeds of the terrible disease, the Black Death—or bubonic plague, as it is termed—are spread throughout the world. . . . Investigations have proved that the plague is transmitted to human beings principally through the medium of fleas that infect the rats.

#### THE WORLD-WIDE WAR ON RODENTS

These are the facts—this is the indictment against the little animals with the sharp teeth and the disgusting habits. What is the world doing about it? How goes the battle against rats, and what are the prospects of victory?

WASHINGTON.—“A ban has been declared against rats and mice on the Panama Canal Zone in efforts to prevent bubonic plague from gaining a foothold there. It has been demonstrated that the plague is communicated by means of fleas. The fleas get it from rats and mice, and communicate it to human beings.”

KINGSTON, Jamaica.—“Two more deaths from bubonic plague are reported. The Government is paying eight cents apiece for live rats. The rats are inoculated with a virus and then given to citizens to turn loose in their houses in an effort to kill off other rats, to which a deadly disease is communicated by the inoculated animals.”

PORT OF SPAIN, Trinidad.—“Since June 15th there have been four new cases of bubonic plague here, resulting in three deaths.

Active measures are being taken by the sanitary corps in the work of destroying rats and cleaning up the city."

SAN FRANCISCO.—"Since the discovery of the plague in San Francisco, the surgeons of the Marine Hospital Service have been at work trying to exterminate rats, it now being positively known that rats do more to scatter plague germs than any other known agency. The city and State governments are giving bounties for dead rats. Nearly half a million dollars have already been subscribed. The catch of rats in four days during the latter part of February was over ten thousand."

And so it goes. The point is driven home and clinched time and time again that the rat is the carrier of disease germs, especially of the plague germ, and thus the people are being educated as to the reason for the war, especially on the plague germ, simply because the very name of the plague carries with it a grim reminder that draws universal attention. . . .

#### THE MAN IN THE STREET CAN HELP

Indeed, this is the only knowledge that counts—the knowledge that the man in the street can himself apply. The coöperation of individuals is the greatest weapon in the world-wide war on rats; as in the world-wide war on all the things of evil—all the creatures of ignorance and darkness—"Education" is the motto to be inscribed on the banners of the armies of science. At Bombay, when a Hindu sees a dying rat dragging himself along the street or house wall, he knows the animal is dangerous, and he takes it by the tail in order to throw it into the gutter. A fatal error—fruit of only half knowledge; for the Hindu does not know that it is not the rat but the fleas on the rat that he should fear. The Hindu must learn this knowledge, and know the necessity of trying his best to kill the living rats without touching them.

#### SCIENCE IN THE WAR OF EXTERMINATION

Sir James Crichton-Browne says that science has so far not discovered any effectual way to rid the world of the pestiferous presence of rats. Perhaps the best method may be found in a device instituted by a celebrated German bacteriologist, Professor A. Neumann; or in a modification or improvement of his idea. He hit upon the novel and fairly successful scheme of inoculating rats with a highly contagious and deadly disease. Cultures of microbes are mixed with bread and grain, which, when eaten by the rats, set up a disease similar to malignant typhus. The rats die in about three days after contracting it,

and the epidemic spreads among them with great rapidity. Professor Neumann's virus is said to possess the virtue of affecting only rodents. Live stock and human beings experienced no ill-effects after being inoculated with it. So great an impression has Professor Neumann's method made in Europe that in Denmark a bill has been passed appropriating \$6,750 annually for expenditure along this line.

In this country, the researches and practical experiences of the experts engaged in carrying on the war have resulted in the recommendation of certain positive steps which may be taken by all citizens. If you will write to the Department of Agriculture at Washington for Farmers' Bulletin No. 297, you will receive all the detailed information at present available on the subject.

#### HOW TO CONQUER THE ENEMY

In this bulletin Expert Lantz declares that trapping, if persistently followed, is the most effective method so far known of destroying rats. The improved modern traps with a wire fall released by a baited trigger and driven by a coiled spring, have marked advantages over the old forms, and many of them may be used at the same time. Those made of metal are the best, as they are less likely to absorb and retain odors or germs. Vienna sausage (*wienerwurst*) or bacon are said to be the best baits, while oatmeal, roasted cheese, sunflower or pumpkin seeds are also good. While trapping, all other foods should be removed from the vicinity of the traps, and the trap bait should be changed often. Rats are very suspicious, and baits and traps should be handled as little as possible. . . .

This expert concludes his report and recommendations in a hopeful and constructive tone.

"By the persistent use of traps," he says, "occasional resort to poison, and the use of forethought in the construction of buildings, farmers and others may prevent the greater part of the loss and annoyance they now experience from rat depredations. The same statement applies in great measure to city and village conditions. Hence coöperation in the warfare on rats is particularly important and cannot be too strongly urged."—*Success Magazine*.

## EDITORIALS

### PUBLICITY OR EDUCATION

THERE seems to be arising in the minds of dentists in various parts of the country a sense of the necessity and importance of proper publicity for dentistry. Two of the digests presented this month deal with phases of this subject.

It is not too much to say that dentistry as a whole sadly needs such educational publicity. Some dentists are natural teachers; they educate their patients as they go. But outside these small, highly favored but rare circles are multitudes of people who sit in dental darkness and who suffer in person and in the persons of their dependents. No one educates these people. They fall into the hands of dentists who have no educational ideas. The operations which pain makes necessary, these people have performed; only too often it is an extraction.

The result is that wherever one travels are seen mouths, in both child and adult, which are a reproach to those who are the exponents and apostles of dentistry. Frequently the owners of these mouths have ample financial means. But no one has lighted their darkness with dental knowledge. Daily one sees the children of these parents with teeth in shocking conditions.

The action of societies will be slow. Many a patient who needs information *now* will be cold in death before their propaganda will reach him. But definite, positive, beneficial action is possible to each practising dentist to-day. Let him resolve to be a beacon light of dental knowledge in his own community. Let him see that every patient who comes into his office receives an explanation of the causes which made necessary the operation to be performed at the time, with instructions how to avoid such necessity in the future. Let him preach daily the doctrine of "clean teeth will not decay."

True he will not reach the entire community in that way; but with what his patients impart to others he will reach many. And circumstances may indicate activities outside his office which will educate children, as in school children's oral examinations, or adults, as in addressing societies, gatherings, etc.

But whatever may be his outside activities, let him preach, preach, preach in his office. And in this way he can do much.

With 37,000 dentists who are preachers as well as workers, the cause of dental education will spread from many foci, throughout a wide area.



**DON'T USE CHLOROFORM**

GEORGE W. CLAPP, D.D.S.

THE number of fatalities from the use of chloroform in dental offices is surprising to one who has not followed the reports of such occurrences as they come to hand. There is, indeed, no scientific means of gathering correct data on the subject, and the only reports available are those taken from the daily news. One reputable dental journal alone published accounts of fourteen deaths in America in two years. There is excellent reason to believe that this is very much less than the full number. But taking it as it stands, it indicates at least two things to which every dentist should give careful heed: First, that chloroform is not a safe agent in the hands of the dentist, and, second, that the dental office is not the proper place in which to give chloroform.

Chloroform is easily the most dangerous of the general anesthetics in extensive use. The best obtainable estimates charge it with one death to every 2,500 administrations. It is thus about seven times more dangerous than ether. Chloroform is a protoplasmic poison and heart depressant. It kills its victim instantly by paralysis of the heart; and when the heart action is paralyzed, resuscitatory measures avail little.

The dental office is not suited to the proper administration of so dangerous an anesthetic. The surgeon who knows his patient to be about to take the most dangerous of anesthetics, should insist that every condition be as favorable to the patient as possible. This would mean that the clothing should be suited for the occasion, and such as would best facilitate resuscitation should it become necessary. The position also should receive attention. No competent surgeon would operate with his patient in other than the horizontal position.

How little does the procedure of the dentist who gives chloroform conform to these well-established requirements! The patient may be a woman who desires to have some abscessed teeth out and insists on taking chloroform. She has been suffering agonies for a week as the result of pain, inability to eat and lack of sleep; her nervous system is in a condition far from normal. Sometimes she is accompanied by one or more friends; but rarely is there a physician along. The dentist now usually follows one of two courses; he may feel her pulse to note its beat, and if he finds it strong he may be satisfied; or he may ask her if she has any heart trouble. If she says "No" that may settle it. The one intelligent course is for him to call in a physician who is an anesthetist and have him make a *careful* examination to see if the patient can take chloroform with average safety. I emphasize the word *careful* because the physician is apt to slight this examination if allowed.

If the dentist is in the habit of administering chloroform without the aid of an anesthetist or physician, he will probably have the patient occupy the dental chair, will get down a can of chloroform of doubtful age and that has stood half used for some time and, after tipping the chair back so he can extract to advantage, proceed to administer the chloroform until the patient is insensible to pain. Then he will lay aside the anesthetic and do the extracting. All he needs do now is wait for the patient to wake up and go home. Well! some of them wake up and some of them don't. And some go home to little ones who are glad, "muzzer's tees are out." Some, sad to relate, go home to little ones who call and call to the "muzzer" who will never answer again; all because some ignorant dentist did what he never should have been allowed to do.

The dentist who with only a dental education administers chloroform at all, takes a big risk. The dentist who administers the chloroform and then does the extracting with no competent anesthetist to watch the patient, may be safe from the clutches of the law, but he ought to be sued for criminal malpractice by his local dental society, and if convicted should be read out of the profession.

It is monstrous that in these days of general enlightenment, lives should be cut off in their prime and sometimes whole families be hurt beyond repair, because a man licensed by the State insists on doing what neither his training nor facilities equip him to do well.

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## THE LITERARY DIGESTS

Various comments, some in praises, others in reproof, come from our subscribers regarding the Digests of "Articles we ought all to know about." These articles are intended for the benefit of dentists who are too busy to read the magazines from which these digests are made, or whom the magazines do not reach.

The editors desire to make them helpful in an increasing degree, to the end that THE DENTAL DIGEST may fill, as completely as one magazine can, the dentist's professional magazine needs.



# BOOK REVIEWS

THE APPLICATION OF BUSINESS PRINCIPLES TO DENTISTRY. By  
Frederick Crosby Brush, D.D.S., New York City.

This little book of twenty-eight pages, composed of four papers reprinted from *The Dental Brief* in the years 1907 and 1908, is worthy careful attention and reading by every dentist. It will be especially valuable to those dentists who are confronted by the very serious question as to how to get more money out of their practices without an unwise expenditure of physical force in over-work. The principles advocated in this little book are eminently sound and practical, and they will require at the hands of any dentist who wishes to put them into practise, only that amount of courage which every business man must use who forces any undertaking to a successful end. Dr. Brush's main thought is that the dentist sells to his patient service, not material. If this idea can be made to permeate the mind of every dentist, it will work a revolution which would immediately place the profession of dentistry on a level with that of medicine and surgery; and it would work a financial revolution which would establish every skilful dentist in such financial conditions as would insure comfort and luxuries during his years of activity and a competence in his old age.

Dr. Brush's papers are very scholarly, so much so that it may require a little patience on the part of some dentists to read them to the end, but no dentist who has fallen short of the success he desires can afford to read them in a careless manner.

THE DENTAL DIGEST takes especial pleasure in presenting this review to the profession because Dr. Brush's papers are so closely in line with one of the objects set for this magazine; that is to enable dentists to make their practices more successful financially, not by efforts to establish a uniform fee, which efforts could not hope to succeed, but by inspiring dentists to value *service* above *materials*; and to base charges on the value of the service rendered.

There is no price attached to the little book, and THE DENTAL DIGEST presumes that dentists desiring copies may obtain them from Dr. Brush, but they should, of course, enclose return postage.—G. W. C.

## MARRIAGE NOTES

DR. L. G. RAY, of Madisonville, Ky., a graduate of the Louisville College of Dentistry, was married December 24, 1908, to Miss Vivian Duley, of Smithland, Ky. Miss Duley is a sister of Dr. W. P. Duley, a prominent dentist at Elizabethtown, Ill.

## OBITUARY

PETER A. CAMPBELL, aged 33, died January 15, 1909, at Wesley Hospital, Chicago, Ill., from typhoid fever.

LUIS LANE DUNBAR, a dentist of San Francisco, Cal., died suddenly December 30, 1908, of heart failure. He had practised dentistry since 1874.

JOHN ANGUS COOK, a dentist of Marinette, Mich., died January 7, 1909. He was 33 years old.

F. W. HAMMOND, a dentist of Baltimore, died January 17, 1909.

SAMUEL C. WHITE, a pioneer dentist of Atlanta, Ga., died January 21, 1909. He was in his eighty-fifth year.

JOHN N. HARRIS, for twenty years a dentist in New Brunswick, N. J., died January 25, 1909.

ADDISON SMITH MELVIN, for several years a resident of Chicago, Ill., died January 27, 1909, at Miami, Fla., of heart failure.

THOMAS J. COLLINS, aged 50 years, died in Detroit, Mich., January 22, 1909.

F. R. ROSS, of Kearney, Neb., died January 14, 1909, of heart failure. He was 59 years old.

CLIFFORD B. HAYFORD, of Toledo, O., died January 27, 1909, after a brief illness.

W. H. DORRANCE, D.D.S., of Ann Arbor, Mich., died January 21, 1909. Dr. Dorrance for twenty-one years, up to 1902, was a teacher in the dental department of the University of Michigan. The news of Dr. Dorrance's death will bring a pang to the hearts of the hundreds of dentists who were once his students. He was a man of unusual ability in his chosen line of work, and his knowledge and skill were always at the command of any struggling student who needed them. Dr. Dorrance was a man of companionable habits, and to many he was as much a friend as he was an instructor. It is safe to say that many a dentist is to-day successfully meeting mechanical difficulties by methods which Dr. Dorrance put at his disposal.

## PATENTS

### PATENTS OF INTEREST TO DENTISTS, RECENTLY GRANTED

907949. Artificial tooth, E. H. Ballou, Dodge City, Kan.

907979. Machine for making toothpicks, C. R. Emens and W. A. Brower, Adrian, Mich.

907815. Dental engine plugger or mallet, J. P. Kelley, Geneva, Ohio.

907882. Dentist's tool, W. J. Reynolds, Selma, Ala.

908336. Wrist-joint for dental engines, A. W. Schramm, Riverton, N. J.

908056. Dental appliance, P. S. Whitney and R. R. Myers, Fairbanks, Alaska.

908643. Artificial tooth, S. S. Bloom, Philadelphia, Pa.

908942. Composition of matter for nerve-canals in teeth, H. J. Bowerfind, Fort Wayne, Ind.

908626. Dental plate and manufacturing the same, E. Telle, New Orleans, La.

908627. Attaching teeth to dental plates, E. Telle, New Orleans, La.

909038. Dental plate, E. Telle, New Orleans, La.  
909643. Dental implement, C. C. Murray, Huntingdon, Tenn.  
909223. Dental stool or the like, W. H. Reynolds, Toledo, Ohio.  
909696. Moulding tooth-crowns and the like, S. Shimura and Y. Minagawa, Tokyo, Japan.  
910357. Dental chair, F. E. Case, Canton, Ohio.  
910334. Terret-bur holder, E. Wesp, Canton, Ohio.

Copies of above patents may be obtained for fifteen cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.

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## NOTICES

### THE NORTHERN DENTAL ASSOCIATION

THE Fifty-second Annual Meeting of the Northern Ohio Dental Association will be held in the Central Young Men's Christian Association Building, Cleveland, O., June 1, 2, 3, 1909.

### TENNESSEE STATE DENTAL ASSOCIATION

THE Forty-fourth Annual Meeting of the Tennessee State Dental Association will be held in Memphis, Tenn., May 25, 26, 27, 1909.

### MINNESOTA STATE BOARD OF DENTAL EXAMINERS

THE next regular meeting of the board for the examination of applicants for license to practise dentistry in Minnesota, will be held at the dental department of the State University in Minneapolis beginning on March 9, 1909, at 9 A.M.

All applications must be in the hands of the Secretary by March 1, 1909. For further information address the Secretary,

DR. GEO. S. TODD,

*Secretary,*

Lake City, Minn.

### ILLINOIS STATE DENTAL SOCIETY

THE Forty-fifth Annual Meeting of the Illinois State Dental Society will be held at Danville, May 11, 12, 13, 14, 1909.

R. J. HOOD, *Secretary,*

Sparta, Ill.

### SUSQUEHANNA DENTAL ASSOCIATION OF PENNSYLVANIA

THE Annual Meeting of the Susquehanna Dental Society will convene at the Oneonta Hotel, Harvey's Lake, May 18th, 19th and 20th. This meeting has always been largely attended, and as Harvey's Lake is a popular place and centrally located, the Society expects to outdo its previous records.

The Exhibit Room will be a big feature this year, and those desiring space will do well to engage it early, as some firms have already spoken for space. All applications for such should be addressed to the undersigned as soon as possible.

FULLER L. DAVENPORT,

34 North Franklin Street, Wilkes-Barre, Pa.

*Exhibit Committee.*

F. L. DAVENPORT, *Chairman,*

A. E. BULL.

WALTER RICHARD,

NEW JERSEY STATE BOARD OF REGISTRATION AND EXAMINATION  
IN DENTISTRY

THE New Jersey State Board of Registration and Examination in Dentistry will hold their semi-annual examination beginning Tuesday, July 6th, and continue through the 7th and 8th, in the Assembly Chamber of the State House at Trenton, N. J. Practical examination on the 6th, and theoretical examination 7th and 8th. Sessions begin promptly at 8 A.M. each day. Candidates requested to bring their patients.

Practical work consists of one gold filling and one amalgam. Gold filling must be approximal with an approximating tooth in position, and soldering of plate. A photograph and preliminary credentials must accompany the application.

Application to be in the hands of the Secretary ten days prior to the examination.

CHARLES A. MEEKER, D.D.S.,

*Secretary of Dental Commission,*

29 Fulton Street, Newark, N. J.

## THE NATIONAL ASSOCIATION OF DENTAL EXAMINERS

THE Twenty-seventh Annual Meeting of the National Association of Dental Examiners will be held at the Hotel Chamberlain, Old Point Comfort, Va., first session opening at 10 o'clock A.M., Monday, August 2, 1909, and continuing the 3d and 4th.

The result of the mail vote by the committee to ascertain the consensus of opinion as to place and date from October 19th to the present date was ninety-one votes for Old Point Comfort the first three days of August, thirteen for Birmingham in March, seven for Birmingham in July. The president has therefore selected Old Point Comfort.

The rates will be, American plan, \$3.00 per day, without bath; \$4.00 per day, with bath. Large and commodious meeting rooms will be furnished free. Railroad and steamship rates will be furnished at a later date.

CHARLES A. MEEKER, D.D.S.,

*Secretary.*

## NATIONAL ASSOCIATION OF DENTAL FACULTIES

THE National Association of Dental Faculties will hold their annual meeting in connection with the National Association of Dental Examiners in the Hotel Chamberlain, Old Point Comfort, Va., August 2, 3, and 4, 1909, commencing at 10 A.M.

Hotel rates the same as the National Association of Dental Examiners. Railroad and steamship rates given at a later date.

B. HOLLY SMITH, D.D.S.,

*Chairman of the N. A. D. F.*

## ST. LOUIS SOCIETY OF DENTAL SCIENCE

THE St. Louis Society of Dental Science at the December meeting elected the following officers: W. E. Brown, President; Clarence O. Simpson, Vice-President; G. E. Hourn, Secretary; C. S. Dunham, Treasurer, and J. B. Winkelmeyer, Curator. Executive Committee, E. E. Haverstick, G. H. Westhoff, E. J. Lenzen, Burton Lee Thorpe, and J. B. Winkelmeyer. Advisory Council: G. A. Bowman, A. H. Fuller, D. O. M. LeCron, Richard Summa, W. L. Whipple, H. F. Cassel, and E. P. Dameron.

## MEETING OF THE READING DENTAL SOCIETY

THE Eleventh Annual Meeting of the Reading Dental Society was held in Reading, and the following officers were elected for the ensuing year: Wm. Meter, Presi-

dent; P. S. Mogel, Vice-President; Geo. S. Schlegel, Treasurer; John T. Bair, Treasurer; O. J. Specker, C. B. Grim, Executive Committee; Geo. F. DeLong, Chairman.

#### ALUMNI ASSOCIATION OF ST. LOUIS DENTAL COLLEGE

THE Alumni Association of the St. Louis Dental College (formerly Marion-Sims) will hold their annual clinic at the college building, Grand Avenue and Caroline Street, about May 20 and 25, 1909.

An excellent program is being prepared. Special attention is being given to the clinical program. All ethical members of the profession are cordially invited to be present.

Program and exact date to be published in a later issue of this journal.

DR. S. T. McMILLIN,

*President.*

DR. JOHN B. O'BRIEN,

5761a Etzel Avenue,

*Chairman Publicity Committee.*

#### ALUMNI ASSOCIATION OF THE COLLEGE OF DENTISTRY

THE Sixth Annual Meeting of the Alumni Association of the College of Dentistry of the State University of Iowa will be held March 9, and 10, 1909, in the Dental College Building, at Iowa City, Iowa. A profitable meeting is assured with good clinics and papers. All ethical practitioners are requested to reserve the dates and plan to attend.

LEON L. BRANSON, *Secretary,*

Iowa City, Iowa.

#### CALIFORNIA STATE BOARD EXAMINATION

A QUIZ class will be organized commencing about April 15th for the benefit of those wishing to review for the California State Board Examinations in June. For further information regarding same, address

DR. J. GEO. KANOUSE,

602 Lankershim Building,

Los Angeles, Cal.

#### ANNUAL SESSION OF THE NATIONAL DENTAL ASSOCIATION

THE Thirteenth Annual Session of the National Dental Association will be held in Birmingham, Ala., March 30th and 31st and April 1st and 2d next.

Dr. James McManus, of Hartford, Conn., Dr. E. C. Kirk, of Philadelphia, Pa., and Dr. L. G. Noel, of Nashville, Tenn., will present essays at the General Session.

The following partial program of the sections is announced:

##### *Section I*

Dr. Martin S. Dewey, of Kansas City, Mo.—a paper on "The Development of the Face"; Dr. C. J. Grieves, of Baltimore, Md.—a paper on Metallurgy, "The Behavior of Certain Metals in the Mouth"; Dr. H. H. Johnson, Macon, Ga.—"Crown and Bridgework."

##### *Section II*

Dr. Herbert L. Wheeler, of New York City—a paper on "Dental Education"; Dr. W. T. Jackman, of Cleveland, O.—"The Elimination of Fear in the Practice of Dentistry"; Dr. J. R. Callahan of Cincinnati, O.—"On Operative Dentistry"; Dr. S. D. Ruggles, of Portsmouth, O.—"On Nomenclature"; Dr. G. S. Vann, Gadsden, Ala.—"On Dental Literature."

A complete list of the sections, with a full list of clinics, railway rates, etc., will be announced in the next issue of this journal.

All preparations for the meeting are well advanced and a large attendance is assured.



## PROCEEDINGS OF THE MACON-MOULTRIE DENTAL SOCIETY

THE January meeting of the Macon-Moultrie County Dental Society was a success in every respect.

The afternoon clinic was held in the office of Dr. O. G. Collins. Dr. Collins administered Somnoform three times to a patient who weighed nearly 300 pounds and who has organic heart disease.

The paper of the evening, "The Modern Dentist and His Equipment," was read by Dr. Rowdybush, formerly of Washington, D. C. The discussion was opened by Dr. T. S. Childs.

The visitors to the Chicago Odontographic Clinic then gave their experiences, and told of the new things they saw, after which the meeting adjourned.

J. F. F. WALTZ, *President*.

C. L. CASSELL, *Secretary and Treasurer*.

## STATE BOARD INFORMATION

## ALABAMA.

Secretary of State Board of Dental Examiners, Dr. T. P. Whitby, Selma; Secretary of State Dental Society, Dr. E. W. Patton, Selma. Applicants for an examination are not required to hold a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held the Monday before the second Tuesday in May, at Anniston. There is no exchange of licenses.

## ARKANSAS.

Secretary of State Board of Dental Examiners, Dr. A. T. McMillan, Fifth and Main Streets, Little Rock. Secretary of State Dental Society, Dr. L. K. Charles, Eureka Springs. Applicants for an examination are not required to hold diplomas. There is no special practitioner's examination. The examination fee is \$15.00. Examinations will be held May 24 and 25, 1909, at Hot Springs. No exchange of licenses.

## NOVA SCOTIA, CANADA.

Secretary of Board of Dental Examiners, Dr. G. K. Thompson, Halifax. Secretary of Dental Society, Dr. R. E. MacDonald, Halifax. Applicants for an examination are not required to hold diplomas. There is no special practitioner's examination. The examination fee is \$20.00 professional and \$10.00 matriculation. Examination will be held in May and October at Halifax. There is no exchange of license between the State, but the certificates of the Dominion Dental Council are recognized.

## CALIFORNIA.

Secretary of State Board of Dental Examiners, Dr. C. A. Herrick, 910 Hayes Street, San Francisco. Secretary of State Dental Society, Dr. C. E. Post, 1424 Gough Street, San Francisco. Applicants for examinations must have a diploma, or have held a license in some other State for five years. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in June and December at San Francisco and Los Angeles. No exchange of licenses.

## COLORADO.

Secretary of State Board of Dental Examiners, Dr. Howard T. Chinn, Denver. Secretary of State Dental Society, Dr. C. A. Munroe, Boulder. Applicants for

examination must have a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held beginning the first Tuesday in June and December at Denver. No exchange of licenses.

#### CONNECTICUT.

Secretary of State Board of Dental Commissioners, Dr. Gilbert M. Griswold, Hartford. Secretary of State Dental Society, Dr. E. S. Rosenbluth, Bridgeport. Applicants for an examination are required to hold a diploma, or he shall have spent five years under a licensed dentist, or he shall have had three years' continuous practise as a legally qualified dentist. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in June and November, at Hartford. No exchange of licenses.

#### DELAWARE.

Secretary of State Board of Dental Examiners, Dr. C. R. Jeffries, Wilmington. Secretary of State Dental Society, Dr. R. A. Traynor, Wilmington. Applicants for an examination are required to hold a diploma. The examination fee is \$11.00. Examinations will be held on the first Wednesday in April, July and October, at Wilmington. No exchange of licenses.

#### FLORIDA.

Secretary of State Board of Dental Examiners, Dr. W. G. Mason, 215 American Bank Building, Tampa. Secretary of State Dental Society, Dr. Dozier Leitner, Bartow. Applicants for examinations must have a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held June 14, 1909, at Ocala. No exchange of licenses. Dental bill will be introduced at the next session of the legislature in April.

#### GEORGIA.

Secretary of State Board of Dental Examiners, Dr. D. G. Atkinson, Brunswick. Secretary of State Dental Society, Dr. D. H. McNeill, Athens. Applicants for examination must have a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held in April and June, at Atlanta, Cumberland Island, respectively. There is no exchange of licenses.

#### ILLINOIS.

Secretary of State Board of Dental Examiners, Dr. J. G. Reid, 67 Wabash Avenue, Chicago. Secretary of State Dental Society, Dr. R. J. Hood, Sparta. Applicants for examination must have a diploma. There is no special practitioner's examination. The examination fee is \$20.00, and license fee \$5.00. Examinations will be held in June and November at Chicago. No exchange of licenses.

#### INDIANA.

Secretary of State Board of Dental Examiners, Dr. T. Henshaw, Middleton. Secretary of State Dental Society, Dr. Otto U. King, Huntington. Applicants for an examination must have a diploma. There is no special practitioner's examination. The examination fee is \$20.00. Examinations will be held June 7 to 10, 1909, at Indianapolis. Licenses are exchanged with Ohio, Michigan, Iowa, Minnesota and New Jersey.

#### IOWA.

Secretary of State Board of Dental Examiners, Dr. E. D. Brower, Le Mars. Secretary of State Dental Society, Dr. George W. Cook, Burlington. Applicants for an examination must have a diploma. There is no special practitioner's examination. The examination fee is \$20.00. Examinations will be held in June and December, at Iowa City. Licenses are exchanged with New

Jersey, Vermont, District of Columbia, Ohio, Indiana, Michigan, Minnesota, Nebraska, Kansas, Oklahoma.

**KANSAS.**

Secretary of State Board of Dental Examiners, Dr. F. O. Hetrick, Ottawa. Secretary of State Dental Society, Dr. H. W. Fessenden, Ottawa. Applicants for examination are not required to hold diplomas, but there is a bill before the legislature that will require a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in May at Topeka. Licenses exchanged with Iowa and New Jersey.

**KENTUCKY.**

Secretary of State Board of Dental Examiners, Dr. J. Richard Wallace, Louisville. Secretary of State Dental Society, Dr. W. M. Randall, Louisville. Applicants for examination are required to hold a diploma. There is no special practitioner's examination. The examination fee is \$20.00. Examinations will be held the first Tuesday in June and December at Louisville. No exchange of licenses.

**LOUISIANA.**

Secretary of State Board of Dental Examiners, Dr. L. A. Hubert, Hennen Building, New Orleans. Secretary of State Dental Society, Dr. Oliver J. Reiss, 830 Canal Street, New Orleans. Applicants for examination must have a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in May and October at New Orleans. No exchange of licenses.

**MAINE.**

Secretary of State Board of Dental Examiners, Dr. D. W. Fellows, Portland. Applicants for examination are not required to have a diploma. There is no special practitioner's examination. The examination fee is \$20.00. Examinations will be held in July, at Portland (probably). No exchange of licenses.

**MARYLAND.**

Secretary of State Board of Dental Examiners, Dr. F. F. Drew, 701 N. Howard Street, Baltimore. Applicants for an examination must hold a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held in May, 1909, at Baltimore. No exchange of licenses.

**MASSACHUSETTS.**

Secretary of State Board of Dental Examiners, Dr. George E. Mitchell, Haverhill. Secretary of State Dental Society, Dr. C. W. Rogers, Dorchester. Applicants for an examination are not required to hold a diploma. There is no special practitioner's examination. The examination fee is \$20.00. Examinations will be held on March 3d, 4th and 5th, June 9th, 10th and 11th, October 27th, 28th, 29th, at Boston. No exchange of licenses.

**MICHIGAN.**

Secretary of State Board of Dental Examiners, Dr. Albert Leland Le Gro, 271 Woodward Avenue, Detroit. Secretary of State Dental Society, Dr. Don M. Graham, Washington Arcade, Detroit. Applicants for examination are required to hold a diploma or a license in the State from which they come with a recommendation from their State Board of Dental Examiners. There is no special practitioner's examination, but the Michigan Board extends certain courtesies to men coming well recommended by the Board of Applicant's former registration. Examination fee is \$20.00. Examinations will likely be held in June and October at Ann Arbor. Licenses exchanged with New Jersey, according to Asheville resolution, Minnesota, Indiana and Iowa on practical basis.

## MINNESOTA.

Secretary of State Board of Dental Examiners, Dr. G. S. Todd, Lake City. Secretary of State Dental Society, Dr. F. E. Cobb, Minneapolis. Applicants for examination are required to have a diploma. There is a special practitioner's examination for dentists who have practised five years in Iowa, Nebraska, Indiana or Michigan. The examination fee is \$10.00. Examinations will be held on the second Tuesday after the first Monday in March and November at Minneapolis. There is no exchange of licenses.

## MISSISSIPPI.

Secretary of State Board of Dental Examiners, Dr. E. Douglas Hood, Tupelo. Secretary of State Dental Society, Dr. L. B. Price, Corinth. Applicants for examination are not required to hold diplomas. There is no special practitioner's examination. Examination fee is \$10.00. Examinations will be held the third Tuesday in May at Jackson. No exchange of licenses.

## MISSOURI.

Secretary of State Board of Dental Examiners, Dr. S. C. A. Rubey, Clinton. Secretary of State Dental Society, Dr. S. C. A. Rubey, Clinton. Applicants for examination are required to hold a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held in May and October at Jefferson City. There is no exchange of licenses.

## MONTANA.

Secretary of State Board of Dental Examiners, Dr. D. J. Wait, Helena. Secretary of State Dental Society, Dr. W. E. Trerise, Helena. Applicants for examinations are required to hold diplomas. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held on the second Monday in July, 1909, Helena. No exchange of license at present, but there is a bill before the legislature allowing for restricted exchange.

## NEBRASKA.

Secretary of State Board of Dental Examiners, Dr. H. C. Brock, North Platte. Secretary of State Dental Society, Dr. E. H. Bruening, Barker Block, Omaha. Applicants for examination must have a diploma or have practised in some other State for five years. The examination fee is \$25.00. Examinations will be held June 21 to 23, 1909, at Lincoln. Licenses are exchanged with Iowa, New Jersey, Minnesota.

## NEVADA.

Secretary of State Board of Dental Examiners, Dr. C. A. Coffin, Reno. Secretary of State Dental Society, Dr. W. W. Goode, Carson City. Applicants for examination must have a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held about March 10th and September 10th, 1909, at Carson. No exchange of licenses.

## NEW HAMPSHIRE.

Secretary of State Board of Dental Examiners, Dr. A. F. Sawyer, Manchester. Secretary of State Dental Society, Dr. F. F. Fisher, Manchester. Secretary of Board of Registration, Dr. A. J. Sawyer, Manchester. Applicants for an examination are not required to hold a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held in June and December, the 1st, 2d and 3d, at Manchester. No exchange of licenses.

## NEW JERSEY.

Secretary of State Board of Dental Examiners, Dr. Chas. A. Meeker, 29 Fulton Street, Newark. Secretary of State Dental Society, Dr. Chas. A. Meeker, Newark. Applicants for examination must hold a diploma. There is no special

practitioner's examination. The examination fee is \$25.00. Examinations will be held July 6th, 7th, and 8th, December second Monday, Tuesday and Wednesday, at Trenton. Licenses are exchanged with District of Columbia, Vermont, Indiana, Michigan, Nebraska, Iowa, Tennessee, Utah under the Asheville resolution.

#### NEW MEXICO.

Secretary of State Board of Dental Examiners, Dr. M. J. Moran, Deming. Secretary of State Dental Society, Dr. L. E. Ervin, Carlsbad. Applicants for an examination must have a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held June 14, 15, and 16, 1909. at Albuquerque. The society meets at the same time or immediately following the Board Meeting at the same place. No exchange of licenses.

#### NEW YORK.

Secretary of State Board of Dental Examiners, Dr. H. J. Burkhart, Batavia. Secretary of State Dental Society, Dr. Ellison Hillyer, 472 Green Avenue, Brooklyn. Applicants for examination are required to have a diploma. There is a special practitioner's examination under what is known as "the six-year exemption clause." The examination fee is \$25.00. Examinations will be held February 2d to 5th, May 18th to 27th, June 22d to 25th, September 21st to 24th, at Albany, Syracuse and Buffalo. Licenses are exchanged with Pennsylvania.

#### NORTH DAKOTA.

Secretary of State Board of Dental Examiners, Dr. H. L. Starling, Fargo, N. D. Secretary of State Dental Society, Dr. F. A. Bricker, Fargo, N. D. Applicants for an examination are not required to hold diplomas. There is no special practitioner's examination. The examination fee is \$10.00. There is a license fee of \$5.00. Examinations will be held the second Tuesday in July, 1909, at Fargo. There is no exchange of licenses.

#### OHIO.

Secretary of State Board of Dental Examiners, Dr. F. R. Chapman, Columbus. Secretary of State Dental Society, Dr. F. R. Chapman, Columbus. Applicants for an examination are required to hold a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held June 15th to 17th, October 19th to 21st, at Columbus. Licenses are exchanged with Indiana, Michigan and Iowa.

#### OKLAHOMA.

Secretary of State Board of Dental Examiners, Dr. A. C. Hixon, Guthrie. Secretary of State Dental Society, Dr. E. P. R. Ryan, Muskogee. Applicants for examination are not required to have a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in May and November at Oklahoma City. Licenses exchanged with Iowa.

#### PENNSYLVANIA.

Secretary of State Board of Dental Examiners' Dr. W. D. DeLong, Reading. Secretary of State Dental Society, Dr. Luther M. Weaver, 7103 Woodland Avenue, Philadelphia. Applicants for examinations must have a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in June and December, 1909, at Philadelphia and Pittsburg, simultaneously. Licenses are exchanged with New York.

#### RHODE ISLAND.

Secretary of State Board of Dental Examiners, Dr. H. L. Grant, 10 Weybosset Street, Providence. Secretary of State Dental Society, Dr. C. A. Carr, 209

Spring Street, Newport. Applicants for examination are not required to hold diplomas. There is no special practitioner's examination. The examination fee is \$20.00. Examinations will probably be held in July and December. Time not set, but probably at Providence. No exchange of licenses.

#### SOUTH CAROLINA.

Secretary of State Board of Dental Examiners, Dr. B. Rutledge, Florence. Secretary of State Dental Society, Dr. R. Atmar Smith, Charleston. Applicants for examination must have a diploma. There is no special practitioner's examination. The examination fee is \$15.00. Examinations will be held on Friday previous to the State Association meeting at the same place. No exchange of licenses.

#### SOUTH DAKOTA.

Secretary of State Board of Dental Examiners, Dr. G. W. Collins, Vermillion. Secretary of State Dental Society, Dr. Ferdinand Brown, Sioux Falls.

#### TENNESSEE.

Secretary of State Board of Dental Examiners, Dr. F. A. Shotwell, Rogersville. Applicants for examination must have a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held in May 18 to 21, 1909, at Nashville. Licenses are exchanged with New Jersey.

#### TEXAS.

Secretary of State Board of Dental Examiners, Dr. Bush Jones, Dallas. Secretary of State Dental Society, Dr. J. G. Fife, Dallas. Applicants for examination are not required to hold diplomas. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held in June at Waco. No exchange of licenses.

#### UTAH.

Secretary of State Board of Dental Examiners, Dr. A. C. Wherry, Salt Lake City. Secretary of State Dental Society, Dr. H. P. Emeis, Logan. Applicants for examination are not required to have a diploma. There is no special practitioner's examination, but one point of credit is given for each year's practice over five. The examination fee is \$25.00. Examinations will be held in June and November, 1909, at Salt Lake City. Licenses are exchanged with New Jersey.

#### VIRGINIA.

Secretary of State Board of Dental Examiners, Dr. R. H. Walker, Norfolk. Secretary of State Dental Society, Dr. W. H. Pierson, Hampton. Applicants for examination are not required to hold a diploma. There is no special practitioner's examination. The examination fee is \$10.00. Examinations will be held in June, at Richmond. No exchange of licenses.

#### WASHINGTON.

Secretary of State Board of Dental Examiners, Dr. H. D. Brand, Tacoma. Secretary of State Dental Society, Dr. F. W. Hergert, 651 Coleman Block, Seattle. Applicants for an examination must have a diploma. There is no special practitioner's examination. The examination fee is \$25.00. Examinations will be held on May 24, 1909, at Tacoma. No exchange of licenses.

#### WYOMING.

Secretary of State Board of Dental Examiners, Dr. Peter Appel, Cheyenne. No State Dental Society. Applicants for an examination must have a diploma. There is a special practitioner's examination. The examination fee is \$25.00. Examinations will be held in July, 1909, at Cheyenne. No exchange of licenses.

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# COME TO



Bird's-eye View of Part of the

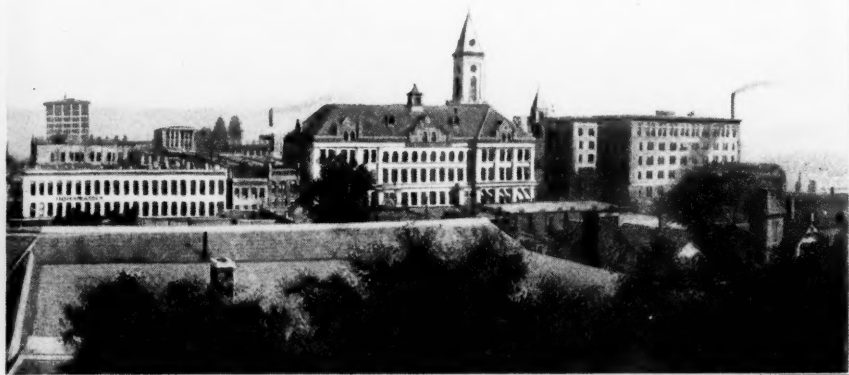
**S**URELY every dentist who can get to Birmingham during the week of March 30th to April 3rd will want to be there. For that week the dental clans gather. From far and near the dentists will come. Some will come to teach, bringing the fruits of years of labor and study. Some will come to learn, to fill in those educational gaps which are always developing in the professional man's life. Some will come to meet old friends and make new ones; to renew the acquaintances of years past, to tell over again old experiences, to become once more young in the memories of days gone—perhaps in the far past. Some will come for a vacation and good time, for a rest from the confining physical and mental toil which characterizes a dental practice and wears dentists out before their time.

Each will benefit; to each will be added that which he seeks—and more. For in this gathering is the knowledge, the companionship, the jollification which is sought, and something else that benefits all—a broadening, uplifting influence, a real inspiration that sends a man home rested, re-created, with bigger and better views of dentistry, with a determination to be a better dentist.

At Birmingham, Ala., March 30th, 31st, and April 1st and 2nd,

NOTE.—The Birmingham illustrations are used through the courtesy of Isidore Newman & Son, New York.

# BIRMINGHAM



Center of the City of Birmingham.

will be held the meeting of the National Dental Association, and at the same time and place an extensive Dental Manufacturers' Exhibit. Surely these two things, the papers and clinics of the society and the exhibit of all that is new and best in dental appliances, will draw to Birmingham every dentist whose ambition leans toward better theory and practice; and every dentist who desires to possess those appliances which lighten labor and save time.

The program of the National Association offers a feast of good things. The different classes of dental work are divided among the sections so that visitors may select largely according to their tastes. And whatever one selects will be good. The program details both the papers and the clinics.

No dentist need hesitate to come for fear he will not be admitted to the meetings of the National Association. In a recent letter to *THE DENTAL DIGEST*, the Recording Secretary writes: "EVERYBODY is invited to the meeting, and you cannot urge that too strongly. Clinics, Association Meetings and all are open to everybody."

And every dentist is welcome also at the Dental Manufacturers' Exhibit. It is held to welcome every dentist—to show him that while keen minds have been working out new theory and practice, equally keen brains have been developing the appliances necessary to make that new

## THE DENTAL DIGEST

and better theory and practice possible. Almost every new device has been suggested by a dentist; generally it has been developed to meet some actual need in the office or to make new operations possible.

The dentist who wishes to join the National Dental Association will find the pathway to membership very easy. It requires only that the applicant secure the recommendation of the President and Secretary of his State Society. He may then become a member of this leading American Dental Society on payment of the fee.

Moreover, going to Birmingham has been made cheap financially. Low return railroad fares, without the bother of getting certificates, will be made from stations south of the Ohio and Potomac Rivers, and east of the Mississippi River. Round trip tickets can be purchased March 29th and 30th, and are good returning not later than April 4th, all tickets limited to continuous passage. Persons outside the territory above indicated should purchase tickets to the nearest point where reduced rates can be obtained. Other fares are as follows:

From Washington, D. C., and return.....	\$27.15
“ Cincinnati, Ohio, and return.....	17.55
“ Cairo, Ill., and return.....	12.50
“ Evansville, Ind., and return.....	13.60



One of Birmingham's Beautiful Homes.

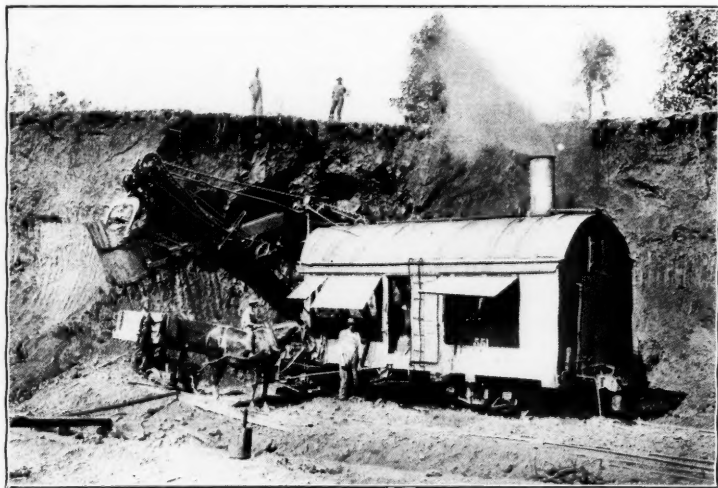
The Association has secured reasonable hotel rates from the numerous hotels at Birmingham, and visitors need not remain away from fear of exorbitant hotel charges.

Birmingham is waiting to welcome her dental guests. No people

## COME TO BIRMINGHAM

of our land excel the true Southerner in the courtesy and cordiality with which the "stranger within the gates" is received. And when a Southern city plans to entertain, everybody who can get there ought to go.

Birmingham is worth seeing for its own sake. Every Southerner ought to know all about it and to be proud of it; for it has even Pittsburgh beaten in the way of natural resources. Nowhere else are coal, iron and the necessary fluxing materials found so close together. Not even in Pittsburgh can pig iron be made at less expense. It is a great thing for any section of the country to have a metropolis of this sort, a center where the natural wealth of the earth is coined into money and circulated among men. There can be no better evidence of the prosperous future in store for Birmingham than the fact that the United States Steel Corporation recently invested more than twenty millions of dollars in the Birmingham district.



Mining Brown Ore near Birmingham.

Following on such development of natural resources, come other forms of wealth-bringing activities. Many men are employed and money is sent broadcast. This is shown by the statements that during 1908 over three thousand houses were built in Birmingham and several new steel office buildings are under way. Such buildings are occupied almost as soon as they are finished. There are approximately 60,000 wage earners in Birmingham, and to them is paid annually fifty millions of dollars. Think of it! In this one city the annual wages are seven

## THE DENTAL DIGEST

times as great as the purchase price of Alaska and over three times the price we paid France for Louisiana and the territory out of which most of the southwestern states were carved. Where there is so much money, there must be many banks, and Birmingham has twenty-three in the city and suburbs. In these banks are deposited twenty millions of dollars. Surely here are the sinews of commerce in abundance.

Getting about Birmingham is made easy by the extension of the street railway to afford access to twenty-six cities and towns, bringing 175,000 suburbanites in close touch with the city.

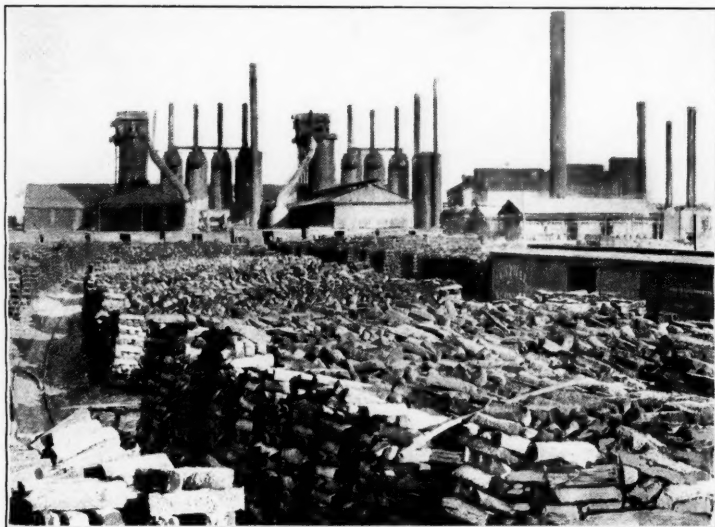
The works of mercy have not been forgotten in this rush of capital and labor. Two thoroughly modern charity hospitals assure to the worker every medical and surgical advantage "without money and without price" if need be.

They have the proper spirit in Birmingham, and it is not to be wondered at. The Commercial Club claims that Birmingham is the best place in the world to live and make a living. Certainly there is much to justify the claim. With a water supply which is bacteriologically pure; with a death rate of only  $9\frac{1}{2}$  per 1,000 (Washington has a death rate of nearly  $22\frac{1}{2}$  and Baltimore of 16); with many fine streets and beautiful houses; with good schools, a high school and two colleges, and with work and workers plenty, there are few communities for which as much can be said. It must be a joy to own property in Birmingham, where the tax rate is only \$10 per \$1,000, with property assessed at 60 per cent. of its value. The realty owner who lives at Birmingham can read about municipal graft elsewhere with an easy mind, since no other important city publishes so low a rate on so low a valuation. If there is municipal graft in Birmingham it must be unusually



Entrance to a Red Ore Mine near Birmingham.

## COME TO BIRMINGHAM



Iron Furnaces: ore ready for shipment.

clever or else be very small. This is a laurel which any city may proudly wear.

There are 133 dentists, a dental college and two dental laboratories in the Birmingham district. Two dental supply houses fill their wants.

Here is a city worth visiting for itself alone. Here is an occasion worthy of the visit. Accept, then, the invitation.

Come to Birmingham. March 30th to April 2nd.

### BIRMINGHAM HOTELS

*Hotel Hillman.*—\$1.50 to \$3.00 per day.

*Florence Hotel.*—\$1.50 to \$3.00 per day.

*Hotel Morris.*—\$1.50 to \$3.00 per day. European Plan.

*Birmingham Hotel.*—\$1.00 to \$3.00 per day.

*Metropolitan Hotel.*—\$1.00 to \$2.00 per day.

*Jefferson Hotel.*—\$2.50 to \$6.00 per day. American Plan.

*Colonial Hotel.*—\$1.00 to \$2.00 per day.

# PROGRAM NATIONAL DENTAL ASSOCIATION

THE thirteenth annual meeting will be held at Birmingham, Ala., March 30th and 31st, April 1st and 2nd, 1909. All meetings of the Associations, Sections and Clinics will be held in City Hall, corner Fourth Avenue and Nineteenth Street. The headquarters of the Association are at Hillman Hotel, directly opposite City Hall. Reservations should be made through the Chairman of the Local Committee, Dr. J. A. Hall.

## ESSAYS

### "A Sidelight on Professional Interest."

James McManus, D.D.S.....Hartford, Conn.

### "The Dental Relationship of Arthritism."

Edward C. Kirk, D.D.S., Sc.D.....Philadelphia, Pa.

### "The Management of the Mouths of Young People from the Age of Six to Adolescence."

L. G. Noel, D.D.S.....Nashville, Tenn.

## Section 1

Harry E. Kelsey, Chairman.

J. S. Spurgeon, Secretary.

### "Development of the Face."

Martin Dewey.....Kansas City, Mo.

Discussion by—

Richard Summa.....St. Louis, Mo.

Frederick B. Noyes.....Chicago, Ill.

Calvin S. Cane.....Chicago, Ill.

C. A. Hawley.....Washington, D. C.

W. O. Talbot.....Biloxi, Miss.

F. C. Wilson.....Savannah, Ga.

### "Crown and Bridge-work."

H. H. Johnson.....Macon, Ga.

Discussion by—

H. T. Stewart.....Memphis, Tenn.

T. P. Hinman.....Atlanta, Ga.

C. L. Alexander.....Charlotte, N. C.

Gordon White.....Nashville, Tenn.

Carroll H. Frink.....Fernandina, Fla.



## PROGRAM NATIONAL DENTAL ASSOCIATION

### PROGRAM NATIONAL DENTAL ASSOCIATION—Continued.

#### "The Behavior of Certain Metals in the Mouth."

Clarence J. Grieves.....Baltimore, Md.

#### Discussion by—

Joseph Head.....Philadelphia, Pa.

B. Holly Smith.....Baltimore, Md.

J. E. Chace.....Ocala, Fla.

H. R. Jewett.....Atlanta, Ga.

#### "The Principles of Retention of Artificial Dentures."

George H. Wilson.....Cleveland, O.

#### Discussion by—

S. L. Rich.....Nashville, Tenn.

W. B. Finney.....Baltimore, Md.

F. W. Stiff.....Richmond, Va.

A. J. Cottrell.....Knoxville, Tenn.

N. C. Leonard.....Nashville, Tenn.

### *Section 2*

W. G. Ebersole, Chairman.

L. L. Barber, Secretary.

#### "Phases of Importance in Nomenclature."

S. D. Ruggles.....Portsmouth, Ohio.

#### Discussion by—

W. G. Mason.....Tampa, Fla.

H. T. Smith.....Cincinnati, Ohio.

Geo. H. Wilson.....Cleveland, Ohio.

#### "Dental Science a Part of Universal Literature."

George S. Vann.....Gadsden, Ala.

#### Discussion by—

F. L. Hunt.....Asheville, N. C.

B. L. Thorpe.....St. Louis, Mo.

#### "The Elimination of Fear in the Practice of Dentistry."

W. F. Jackman.....Cleveland, O.

#### Discussion by—

M. L. Rhein.....New York City.

J. Y. Crawford.....Nashville, Tenn.

W. G. Ebersole.....Cleveland, O.

#### "Education of the Dental Student Concerning Preventive Dentistry."

H. L. Wheeler.....New York City.

#### Discussion by—

Charles S. Butler.....Buffalo, N. Y.

G. M. Smith.....Baltimore, Md.

## THE DENTAL DIGEST

PROGRAM NATIONAL DENTAL ASSOCIATION—Continued.

### "Operative Dentistry—Root Canal Treatment."

J. R. Callahan.....Cincinnati, Ohio.

Discussion by—

J. C. Watkins.....Winston-Salem, N. C.

A. H. Peck.....Chicago, Ill.

J. D. Patterson.....Kansas City, Mo.

### *Section 3*

*Charles C. Allen, Chairman.*

*J. W. Hull, Secretary.*

### "The Evolution of Tools."

A. H. Thompson.....Topeka, Kan.

Discussion by—

L. G. Noel.....Nashville, Tenn.

G. V. I. Brown.....Milwaukee, Wis.

### "Dental Literature."

G. S. Vann.....Gadsden, Ala.

### "Dentistry Past and Present, as Seen by a Modern Hygienist."

Levi C. Taylor.....Hartford, Conn.

Discussion by—

N. S. Hoff.....Ann Arbor, Mich.

A. C. Fones.....Bridgeport, Conn.

J. Y. Crawford.....Nashville, Tenn.

### "Something on Pyorrhœa."

Gordon White.....Nashville, Tenn.

Discussion by—

J. D. Patterson.....Kansas City, Mo.

J. C. Hartzell.....Minneapolis, Minn.

J. D. Towner.....Memphis, Tenn.

### "Friction as an Aid to Restoration of Gum Tissue."

A. W. Harlan.....New York City.

Discussion by—

H. H. Johnson.....Martin, Ga.

H. W. Gillette.....Newport, R. I.

J. B. Crossland.....Montgomery, Ala.

### "Recent Progress in Oral Surgery."

Truman W. Brophy.....Chicago, Ill

Discussion by—

J. D. Patterson.....Kansas City, Mo.

T. P. Hinman.....Atlanta, Ga.

## PROGRAM NATIONAL DENTAL ASSOCIATION

### PROGRAM NATIONAL DENTAL ASSOCIATION—Continued.

#### *Chair Clinics*

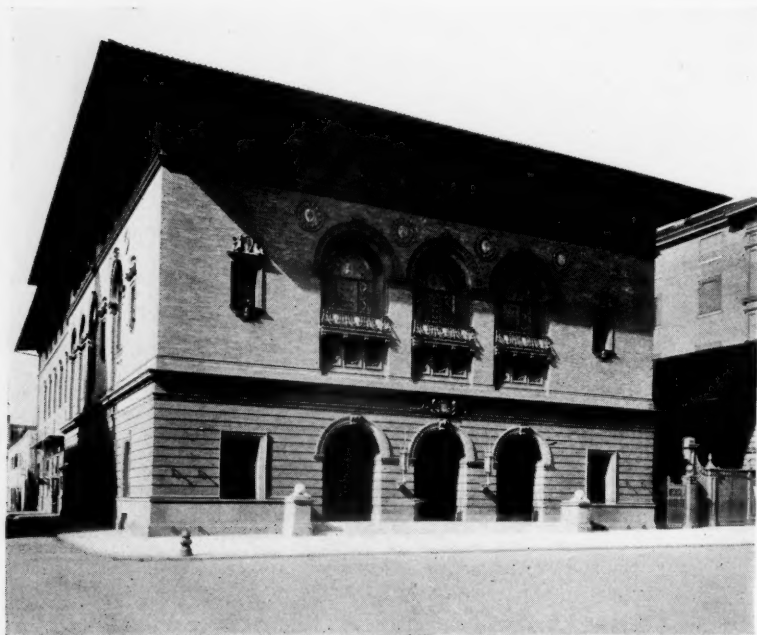
1. "Solidified Sponge Gold Inlays." (Also table demonstration.)  
Alexander, C. L. .... Charlotte, N. C.
2. "Explaining any Practical Cases Present."  
Crawford, J. Y. .... Nashville, Tenn.
3. "The Demonstration of a Tartar Solvent in the Treatment of  
Pyorrhœa."  
Head, Joseph. .... Philadelphia, Pa.
4. "Parafine Root Canal Filling in Septic and Aseptic Canals."  
Hamm, W. G. .... Chillicothe, Ohio.
5. "High Pressure Anesthesia with Cavity Preparation."  
Jackson, W. T. .... Cleveland, Ohio.
6. "Alveolar Pyorrhœa." (After method of B. F. Arrington.)  
Johnson, J. N. .... Goldsboro, N. C.
7. "Artificial Enamel Fillings Without the Use of the Rubber Dam."  
Kettig, E. M. .... Louisville, Ky.
8. "Extraction of Teeth by Local Anesthesia or Somnoform."  
Purvis, Robert. .... Camden, N. J.
9. "Minor Dental Operations under Narcotile Anesthesia and Anal-  
gesia."  
Reaben, W. H. .... McComb, Miss.
10. "First Treatment of an Alveolar Abscess."  
Reynolds, C. H. .... Clintondale, N. Y.
11. "An Hygienic Filling."  
Taylor, Levi C. .... Hartford, Conn.
12. "Porcelain Enamel Filling."  
Walker, J. Lewis. .... Norfolk, Va.
13. "Extracting with Elevator."  
Westerfield, F. .... St. Charles, Mo.
14. "Efficient Exclusion of Saliva and Protection of Soft Tissues, in  
Short Operations, by Use of Clamps and Napkins Lined with  
Rubber Dam."  
Zentler, Arthur. .... New York City.

*(Table Clinics omitted for lack of space)*

## WHAT A DENTAL MANUFACTURERS' EXHIBIT IS

AN important one is to be held at City Hall, Birmingham, Ala., in conjunction with the meeting of the National Dental Association, March 30th, 31st, April 1st and 2nd, 1909.

A Dental Manufacturers' Exhibit is a first-class dental meeting without any papers. It is a concerted effort by leading makers of dental appliances and supplies to exhibit to dentists *all* those devices which dental skill has developed and dental knowledge has approved, for making possible new operations or making old tasks easier. By this means the dentist is shown many devices which are new to him and of which he might not otherwise hear, since no small exhibit brings out such an extensive display of dental appliances as do these meetings. Thus the dentist who is interested in office furniture is enabled to see extensive



Horticultural Hall, Philadelphia, where the first Dental Manufacturers' Exhibit was held. The upper floor was entirely given over to exhibits and was crowded by visiting dentists.

## WHAT A DENTAL MANUFACTURERS' EXHIBIT IS

exhibits of different lines, and he is enabled to make comparisons and selections which would otherwise be impossible. The same thing is true of every other line of dental goods.

All dentists are welcomed at Dental Manufacturers' Exhibits. There is no admission fee. As a means of keeping out persons not connected with dentistry, visitors are requested to show by their cards or stationery, or in some other manner, that they are dentists. This is very easily done. Wives and friends of dentists are admitted with them.



A small section of the Banquet Hall, Auditorium, Chicago, with part of the throng of dentists who attended. Many dentists came 500 miles. About 3,000 dentists visited the exhibit.

Dental Manufacturers' Exhibits offer, however, much more than mere exhibits; they offer many clinics of great practical value. These are usually table clinics demonstrating the correct use of appliances. For instance, all dentists are now interested in casting inlays. At the last Dental Manufacturers' Exhibit there were continuous demonstrations of several casting machines. These demonstrations were constantly surrounded by throngs of interested dentists; many learned here how to cast properly. There will be many similar demonstrations at the Dental Manufacturers' Exhibit at Birmingham.

There are many small appliances, recently perfected, which so lighten the labor of dentistry as to effect great office economies in time and strength. Many of these will be demonstrated in such way that the dentist can learn their use before buying. New and interesting demonstrations are being constantly devised and offered. Every den-

tist who contemplates buying an appliance or has already invested should learn as much as possible about the manipulation of that particular appliance. For such instruction these clinics are very valuable. They show the use of that appliance as the inventor and perfector saw it. And whatever knowledge the dentist may bring to his work, his labors are often greatly lightened by getting this knowledge first.

The demonstrators for these meetings are selected with great care. This is necessary, because the expense of these meetings is very heavy to each exhibitor. He therefore makes sure that his representatives are thoroughly capable. Each dentist attending a Dental Manufacturers' Exhibit can acquire a large amount of up-to-date practical information. And the demonstrators will be found interested and patient in answering intelligent questions.

Not the least profitable parts of Dental Manufacturers' Exhibits are those individual conferences which are constantly occurring between dentists who meet at a table showing an exhibit or where a clinic is being given. It is observed that remarks by the attendant or by dentists are sure to develop observations by others which may vary slightly or widely. Very frequently such discussions illuminate a subject or a method in a most instructive way. It is the experience of close observers that these discussions are among the most profitable possible to a dentist, since they are by practical men and are free from pretense. It has been frequently observed that if such discussions could be transferred to our societies, we should have meetings of absorbing interest.

The history of Dental Manufacturers' Exhibits proves their value. Up to about six years ago, dental exhibits were "hit-or-miss" affairs; the exhibits were very incomplete. They showed only a part of what they should present, and their educational value was small compared with its possibilities; for a good exhibit of articles of practical labor-saving value is one of the best means of education possible. When a trained attendant has so explained and exhibited an appliance that by means of it a dentist can advance the grade of his practice, that dentist is benefited from that time on.

The makers of dental appliances recognized this. For years many of them had been adopting and perfecting suggestions from some of the brightest minds in the profession. They knew they had many devices of which most dentists were either ignorant or knew less than they should. It therefore occurred to several that if a mammoth exhibit were held, so that every line of appliances could be properly shown and explained, both the dentists and the makers would be benefited. The suggestion met with hearty approval from the leading makers of the

## WHAT A DENTAL MANUFACTURERS' EXHIBIT IS

most valuable appliances. An exhibit was therefore arranged at Philadelphia which should be more complete than any that had gone before. It was not held in connection with any dental society meeting. The manufacturers rented the hall, sent notices to dentists in the surrounding territory, and opened on time.

The writer well remembers the anxiety of the early opening hours. Would such an exhibit strike a popular chord? Would dentists come in sufficient numbers to warrant the heavy expense? Before long it seemed to those in charge that every dentist who came must have made it his especial business to bring others. And long before the exhibit closed, it was clearly proved that the information thus given was just what hundreds of dentists wanted, and that they would take great pains to attend the exhibits.

Since then Dental Manufacturers' Exhibits have been held in Chicago, Kansas City, New York and Cincinnati. At the Kansas City Exhibit some dentists traveled 500 miles to attend, and expressed themselves as feeling more than repaid. Dentists from Ohio and Virginia, the Carolinas and Maine, attended the New York Exhibit.

The attendance at these exhibits is surprising from the point of numbers. Something like 1,600 dentists attended the first exhibit, while the Chicago and New York Exhibits each attracted from 3,000 to 4,000 dentists. It is considered a large dental society meeting that attracts over 300 dentists.

The character of the attention given to exhibits and table clinics is of the highest. Many dentists travel long distances and attend faithfully, to watch certain demonstrations again and again. They ask the questions necessary to make the subject clear in their minds. They go home practically masters of new methods.

Many dentists attend in order to study the subject of office furnishings. It is now pretty clearly recognized that it takes modern equipment to maintain a practice at its best. And what was modern and up-to-date ten or fifteen years ago is no longer so now. Those dentists who are the keenest business men realize this, and every few years they refurnish their offices, considering the expenditure cheap if it helps hold the practice at its best. This habit will spread as dentists realize the keen business sense back of it. As the dentist grows older physically and might be expected to drop behind mentally, the necessity is on him of *proving* that he is still in his prime. And by no other means can he so well do this as by keeping his equipment, both in furnishings and in instruments, as modern as that which people see in the office of the young practitioner. The amount of practice which can be retained by this means much more than repays the expense.





Madison Square Garden, New York. The Concert Hall was jammed for three days by dentists. They came from Maine to Ohio and Carolina. Nearly 4,000 individual dentists attended.

This issue of THE DENTAL DIGEST reaches five thousand Southern dentists. Many of these are not members of any society, are not even in the habit of attending dental meetings of any sort. They pass their days in toil in their offices, gleaning such inspiration as is brought to their doors. It is to these dentists that this invitation is particularly addressed, for they need it most. The dentist who stays closely at home may call himself faithful to his work, but he is not faithful in the sense that he is the best dentist he is capable of being. For the dentist who misses the instructions such meetings as these offer, is not and cannot be so capable as he would be with their aid. His judgment is not so good; his mastery of modern methods is not so complete. He has not the same chance to correct errors and gather new information. By staying at home he necessarily becomes narrow in theory and practice.

It pays financially to attend such meetings, to be known to attend,

## WHAT A DENTAL MANUFACTURERS' EXHIBIT IS

to be "up-to-date." The dentist who is so thought of can secure better fees. The better class of patients prefer him. He can do better things for them, or the same things in a better manner. He betters his reputation by going, and the things he learns help build it higher yet.

This issue of *THE DENTAL DIGEST* is a special invitation to *you* to come to Birmingham, to see, hear and profit. Twenty years ago there was no such opportunity accessible at any price. Now it is brought almost to your door; you can profit by it all at the mere expense of car-fare and board. It may be years before such a chance is made so convenient again. Improve it while you may.

The Birmingham Exhibit will be given by the same manufacturers who gave the preceding successful ones. With each exhibit something new has been learned, and the displays are now more complete and artistic than formerly. It is safe to say that every dentist who attends this exhibit may learn many things which will lighten his toil and enable him to do better work during the rest of his years. No expense which he is likely to incur to get to Birmingham, nor any cases which he could by any chance lose while away from his office, are to be compared in value to the information which he may there obtain. These exhibits have been called, with good reason, "Practical Post-Graduate Courses."



# Dixie's Land

1



WISH I was in de land ob cotton,  
Old times dar am not forgotten,  
Look away! Look away! Look away!  
Dixie Land.  
In Dixie Land whar I was born in,  
Early on one frosty mornin',  
Look away! Look away! Look away!  
Dixie Land.

*Chorus.*

Den I wish I was in Dixie, Hooray! Hooray!  
In Dixie Land I'll take my stand,  
To lib and die in Dixie!  
Away, away, away down South in Dixie!  
Away, away, away down South in Dixie!

2

Old Missus marry Will be weaber,  
Willium was a gay deceaber,  
Look away! etc.  
But when he put his arm around 'er,  
He smiled as fierce as a forty pounder,  
Look away! etc. *Chorus.*

3

His face was sharp as a butcher's cleaber,  
But dat did not seem to greab 'er,  
Look away! etc.  
Old Missus acted foolish part,  
And died for a man dat broke her heart,  
Look away! etc. *Chorus.*

4

Now here's a health to the next old Missus,  
And all de galls dat want to kiss us,  
Look away! etc.  
But if you want to drive 'way sorrow,  
Come and hear dis song to-morrow,  
Look away! etc. *Chorus.*

5

Dar's buckwheat cakes and Ingen batter,  
Makes you fat or a little fatter,  
Look away! etc.  
Den hoe it down and scratch your grabble  
To Dixie's Land I'm bound to trabble,  
Look away! etc. *Chorus.*